

THE LARYNGOSCOPE.

VOL. XIII. ST. LOUIS, MO., FEBRUARY, 1903. No. 2.

ORIGINAL COMMUNICATIONS.

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CONGENITAL CLEFT OF THE PALATE. A FURTHER REPORT UPON THE OPERATIVE TECHNIQUE AND ITS RESULTS.

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In May, 1899, I submitted to the Council of this Association, as a candidate's thesis, a paper dealing with the operative technique of congenital clefts of the hard and soft palate, and detailed in full the history of four cases operated upon by this method. Since that time several more cases have been operated upon, twenty-four in all, and the technique of the operation somewhat modified; and it is for this reason, as well as to show the results in the subsequent cases operated upon, that this report is made. The operation as described at that time was as follows:

The operation.—The antiseptic precautions observed for patient, instruments and attendants should be the same as those for any other successful operation. The first step is to administer the anæsthetic in the usual way, chloroform being used. The second is to perform a tracheotomy, which takes but a few moments; then connect with the tracheotomy tube a long rubber tube covered at the distal end by a membrane of gauze on which the chloroform can be dropped. Ether can also be given in this way if desired, though it is not so satisfactory an anæsthetic if so given as chloroform. Next, a gag is inserted between the teeth, preferably the

*Presented at the Twenty-fourth Annual Meeting of the American Laryngological Association, held at Boston, Mass., May 28th, 1902.

Smith gag, as in connection with it we have a tongue depressor that holds the tongue well downward. The gag, when separated, opens the mouth to its widest extent and is self-retaining, which in itself is an important factor, as here we need all the room that it is possible to obtain for digital and instrumental manipulation.

A large, flat, thick piece of plain sterilized gauze, with a string attached, is now placed below the base of the tongue, covering the entrance of the larynx and oesophagus, thus shutting off all possibility of foreign substances, such as blood, solutions, etc., from being carried into the larynx and the parts below, or into the stomach by way of the oesophagus. The string attached to this piece of gauze is allowed to hang out of the mouth, with a clamp attached to it, so that it can, if necessary, be quickly removed at any time. There should be several of these pieces of gauze on hand in case the one in position has to be removed, as sometimes occurs when it becomes saturated with blood.

The face, lips, teeth, tongue, pharynx and the hard and soft palate, as well as the nose, are now thoroughly cleansed with a warm boric-acid solution, or a warm normal salt solution. The latter is preferable. After thoroughly going over these parts with either of these solutions, a weak solution of formaldehyde is used to mop the surfaces again, and make them as sterile as it is possible to do in this region and not injure any of these tissues.

The next step is to prepare the edges of the cleft, and this is done by beginning below at the soft palate, using a long-handled volsella to grasp the tissue about to be removed; the cutting can be done with either a long, narrow, curved scissors or a long-handled curved scalpel with a small blade. As a rule, the scissors are preferable, as in severing the tissue they leave a beveled surface, so that when the edges are brought together there is more accurate approximation, owing to this beveling, and a thicker base is left beneath.

After freshening the edges of the soft palate, we can pass directly upward on that side and prepare the edges of the hard palate in the same manner. When close to the angle, and directly back of the teeth, I have found it better to continue the incision in the form of an ellipse rather than a circle round the angle to the opposite side, as it gives us a better approximation when sutured than if the incision had ended in the apex of the cleft.

The opposite side is proceeded with in exactly the same manner, beginning below and working upward. When a rudimentary uvula

is present, great care should be taken to destroy as little as possible of this muscle, as its presence helps very materially when the time comes to introduce our sutures. All the time the edges are being freshened an assistant (and there should be two present), should mop up the blood with gauze sponges on long-handled sponge holders, and between times press the gauze against the bleeding surface to control the flow of blood.

Next, a curved incision is made in the hard palate close to the alveolar border of the jaw, this incision extending through mucous membrane and periosteum to the bone. The extent or length of the incision should be guided by the extent and length of the cleft. When a complete cleft is present, then it should extend from directly behind the teeth in front, as far backward as the hard or bony palate extends. A small, rather sharp and curved, pointed periosteal elevator is now used to separate the periosteum from the bone. This separation must be done slowly and carefully, in order not to injure unnecessarily the palatine vessels. The periosteum should be completely separated from all its attachments to the hard palate, except a small portion directly behind the front teeth, so that with its covering it forms a muco-periosteal flap that can be slid easily into the median line without tension of any kind, and when both sides are loosened it forms a perfectly loose apron, easily approximated in the centre.

To relieve the possibility of any tension being exerted by the soft palate, an incision should always be made on either side, internal to the hamular process and carried well backward. As a rule, this incision is made after the edges are sutured. This will prevent tension at the junction of the hard and soft palates, as well as prevent tension of the soft palate alone, which it was formerly supposed to relieve. Before introducing the sutures, the bleeding from the edges should be stopped by sponges of gauze wrung out of a hot normal salt solution and applied to their surfaces.

The next step is the introduction of the sutures, and I have found the needles which I show here of the greatest help in their introduction. They consist of a right and left, and a suture can be easily introduced, no matter how abrupt the angle or small the space.

The material for sutures can be either a medium-sized silk, a silk-worm gut, or a silver wire. In all my cases I used iron-dyed silk, except in one, and in this I used silver wire with a gratifying result. The sutures should be passed from before backward—that is, beginning directly behind the front teeth and extending backward to

the end of the soft palate. As a rule, the sutures should be about a third of an inch apart, and, if of silk, can be tied by the slip-knot method or the ordinary surgeon's knot. The edges should approximate perfectly and there should be absolute freedom from tension. After the oral cavity has been cleansed again by the normal salt solution, and the pad removed and replaced by a fresh one, a thin strip of sterilized gauze, about an inch and a half wide, is passed between the under surface of the repaired palate and the posterior pharyngeal wall. Plain, sterilized gauze is then used to pack the lateral incisions, and here the packing should be quite firm. Sterilized gauze is also used over the whole of the operative field, the cavity of the mouth is filled completely to the front teeth, and the gauze is pressed rather firmly against the under surface of the new palate.

The patient breathes freely through the tracheotomy tube, and we are enabled to treat the wound in somewhat the same manner as we would were it on any other surface of the body.

Should vomiting occur and soil the dressings while the patient is recovering from the anæsthetic, then we must redress the wound. This happened twice in one of my cases, and not at all in the others.

Nourishment is carried on entirely by the rectum, and consists of peptonized milk, four ounces given every four hours. After the first twenty-four hours this is alternated with liquid beef peptonoids, and later malted milk, given in the same quantity and at the same intervals. A patient can be nourished in this way with perfect ease for ten or twelve days and lose but very little weight. In giving the nourishment by rectum, the nurse should always apply a pad after the introduction of the fluid, and hold it firmly in position for at least half an hour to insure its absorption, for many times the bowel will become very irritable and often reject the smallest quantity introduced if this precaution is omitted.

If no vomiting has taken place the packing should be removed at the end of forty-eight hours, and the parts gently sponged with either a hot saline solution or with sterile water and the wound gently repacked.

Owing to the salivary secretions, which are now increased by the mechanical irritation of the dressing, we should remove the packing each day and cleanse as before, at the same time inspecting our sutures; and if any are found drawing they had best be severed at once, but not removed until the next dressing, as then they will have become loosened and easy to remove and have helped

to hold the parts together several hours longer than they would otherwise have done had they been removed at the time of the cutting, and this in itself is an advantage in promoting the healing.

The length of time for the sutures to be left in depends entirely upon how the case does. They should not be removed all at one time, but one removed here and there as seems best from the inspection. Silk sutures can rarely be left in over eight days, and that is time enough, for if they have not served the purpose for which they were used by this time they never will. Silver wire can be retained much longer, and in a recent case which I operated upon, it was left in for fourteen days.

The tracheotomy tube should be retained until the patient is able to take food by the mouth, which is usually by the tenth or twelfth day. It can then be removed and the wound left by it will quickly heal by granulation in a very few days. As an adjunct to the nutrition, I have found of very great value the introduction into the bowel at night of ten to twelve ounces of a warm saline solution. This also materially diminished the thirst and adds to the general comfort of the patient.

Since describing the operation as just detailed, several more cases have been operated upon; and as we all learn by experience, there have been made since then a few modifications, both from the standpoint of operative technique and after treatment, which to the writer seem beneficial.

At the present time a preliminary tracheotomy is done under cocaine the day before the operation. As most of the cases operated upon have been adults, this has been a comparatively easy matter. If the case has been that of a very young child, then the operation of tracheotomy is done prior to beginning work upon the palate.

In administering the chloroform, it has been found preferable to drop it on an inhaler directly over the tracheotomy tube, rather than through a long rubber tube as first described.

The large, flat, thick pieces of gauze with strings attached are used to cover the entrance to the larynx and oesophagus as described in the earlier operations.

In preparing the edges of the cleft, a long-handled mouse-tooth forceps is used to grasp the edge of the tissue about to be removed, and the cutting is done with a pair of long-handled, curved scissors. In some cases the edges can not be pared with the scissors further than the junction of the hard and soft palate, as here the edge of

the cleft is firmly adherent to the palate process of the superior maxillary bone. If this condition be present, a knife can be used, and a thin margin of the flap cut directly down to the bone upon which it rests, and this can be easily removed with a periosteal elevator.

Especial care should be taken to save as much of the tissue of the uvula as possible, for it will unite when only a very small area of it be freshened.

Before proceeding further as was formerly done, we now introduce the sutures through both sides of the soft palate, and through as much of the hard palate as overlaps the bone, provided the overlapping be of sufficient width to introduce a suture. If it be of insufficient width, then they are passed through only to the hard palate.

The material used in suturing has been invariably silver wire for the last three years.

After the alveolar incision has been made, care should be taken to have that portion of the flap situated just behind the front teeth left with as broad a margin of attachment as possible, in order to preserve the circulation between the flap and the adjacent tissue, as in one of my cases the flap at this point was narrowed down to a small point of attachment, and on the sixth day parted, but fortunately later closed by granulation.

Where formerly a curved incision was made in the tissue of the soft palate internal to the hamular process, it is now extended downward, keeping well to the outer attachment of the soft palate, until in some cases the incision stops just before the fibres of the pillar are severed. An incision made in this way is an absolute safeguard against tension; it also prevents the arching of the palate after healing has taken place, and this alone is a valuable adjunct when our patients begin to articulate.

This incision can be made either before or after suturing the edges. Usually, it is partially done prior to suturing, and then after our edges are united, it is extended downward in the manner spoken of above.

In all the cases operated upon during the past two years, there has been but little trouble from hemorrhage while operating; it has always been easily controlled by gauze sponges wrung out of hot sterile water.

The needles used in the introduction of the sutures are the ones already spoken of. They are, as you will see, a right and left; as

many times, on account of an abrupt angle, we can more easily pass the suture from left to right than from right to left, and it is for this reason that the left is used.

Where formerly the introduction of the sutures was begun just behind the teeth in the hard palate, we now commence to insert them in the soft palate first and go forward rather than from before backward, as was first advised.

The size of the suture material will, of course, vary according to the tissue to be repaired. For ordinary use, No. 26 silver wire will be found useful and all that is needed.

In closing the cleft and twisting the wire, the utmost care should be taken not to draw the suture too tight, for if this be done, the wire will cut through the edges of the flap on the second or third day, and thus prevent healing at this point by a separation of the edges.

The edges should be drawn together just tight enough to give them moderate approximation; and in all cases a shield should be used while twisting the wire, as this enables one to see just how tight we are making our suture.

After the wire sutures are in place, the ends should all be bent from behind forward, so as later to prevent irritation of the tongue as much as possible.

The lateral incisions should be packed quite firmly with sterile gauze, and this gauze left in position for at least twenty-four hours, as it tends to push the flaps together, thus avoiding any tension. It also aids materially in checking hemorrhage.

In all the more recent cases operated upon, the second dressing was done from twelve to fifteen hours after operation instead of twenty-four hours, as was first practiced, the reason for this being that the salivary secretion is always more profuse after anaesthesia, and our dressings are, up to this time, saturated quite as much as they are later by allowing them to remain the full twenty-four hours. The best results have been obtained by dressing the whole operative field twice a day for the first six days after the primary dressing.

The dressings are all applied moist, being previously wrung out of hot sterile water.

The dressings applied in this way and packed firmly against the new palate act as a splint does to an injured limb, and allow of but a minimum degree of motion, holding the palate almost stationary except while we are changing the dressings. While not an ideal splint, still it roughly takes the place of one, and until something

better is devised, helps us very much in bringing about a favorable result.

It has been suggested that lead clamps would help here, and act as splints, and I am now having some constructed with this end in view.

The lateral alveolar incisions should not be repacked after the first twenty-four hours; for if they be repacked for even a second twenty-four hours, there will be a tendency to a curling over of the edge which has been severed, and such curling will take place toward the median line rather than toward the tissue from which it was severed. This will prevent healing by granulation at this point as too much space will exist for complete filling by granulation tissue, and the result will be a fissure near the alveolar border when the surface in the median line is healed.

Instead of nourishing by the rectum during the whole period of convalescence as was formerly advised, we now, after the third day, while dressing, give them a glass of peptonized milk, which is followed by a glass of warm sterilized water to cleanse the parts. Later this quantity of nourishment is increased to a pint of milk at each dressing as the days go on. The rectal nourishment is in no way diminished on this account.

In this way but very little weight is lost and the strength is maintained very well. A point of importance in rectal nourishment should be very strongly emphasized; that is, that after the nutritive enema has been placed in the bowel, the nurse should always hold a pad firmly over the anus for from twenty minutes to half an hour to prevent its expulsion.

In only one case operated upon was there any difficulty in having the nutrition retained. The bowel is always washed out at least half an hour prior to the time for rectal feeding. At least twice a day eight to twelve ounces of a warm saline solution is introduced into the bowel, the last introduction for the day being at night, and this prevents the intense thirst usually complained of by these patients.

The sutures are left in much longer than was formerly advised, as it has been found the union is made firmer than if they were removed earlier. The usual time for the tracheotomy tube to be left in is ten days, and the resultant wound from its use heals very rapidly, and does not leave a large and unsightly scar, if properly dressed each day while in position. Much adverse criticism has been brought to bear upon this method of operating because a trache-

otomy tube is advised as an adjunct in its performance. First, it has been said that it is a dangerous procedure; that we unnecessarily jeopardize a patient's life by its performance.

That this is not so, I think has been proven, for of the twenty-four cases operated upon, I can assure you that I have never seen the slightest harmful result. An uncomplicated tracheotomy is, I believe, as free from danger as many other operations that are advised and said to be void of danger; and if the proper care be given a case after a tracheotomy has been done, I do not believe complications will arise.

The routine followed in my cases after the introduction of the tube, has been to place the patients in bed in a warm room, with a temperature for the first three or four days of at least 80° F. A steam kettle is kept going all the time, day and night; and over the end of the tube is placed a piece of gauze moistened with a saline solution, which is changed every two hours. This enables the patient to continually breathe in a warm moist atmosphere, and I believe minimizes the danger of bronchitis or a bronchopneumonia developing.

In former times the reason why a tracheotomy was looked upon with so much fear was because it was rarely if ever done except in an emergency to try and save life, and being used so as a last resort, it is not strange that the mortality in the cases in which this operation was done, should be large. But in no sense should a simple, uncomplicated tracheotomy be called dangerous, nor should it be compared, from the standpoint of danger, to a tracheotomy done in an emergency case, when the tissues as well as the patient's physical condition are diseased and far below the normal health standard.

Then, too, by the aid of tracheotomy, we are enabled to operate in practically one-half the time it takes to do the operation if this procedure be dispensed with; and this in itself is, I believe, of very great importance, and aids us materially in bringing about a rapid convalescence.

It also aids us very much indeed, in keeping the blood and solutions from entering the larynx and stomach.

To be sure, we can operate without the introduction of a tracheotomy tube, by having the head extended and lowered over the end of the table, but even in this way, I have seen large quantities of blood pass into the larynx and stomach; and in two cases (not my own) the flaps were torn apart during the next twelve hours on account of the vomiting of the blood swallowed.

It has been said that if the same technique were followed in operating, minus the tracheotomy, we should obtain the same results. Wishing to test this, I operated upon three cases: two adults and one child 7 years of age, following the technique as described in every detail. The results were that at the end of five days I had nothing but ragged flaps in the adult cases; and at the end of the second day in the child's case, there was not a stitch intact. Of the twenty-four cases operated upon, all were not successful; sixteen were closed by primary union in both hard and soft palate. In two, there was a slough at the junction of the hard and soft palate, that looked on the eighth day as though there was going to be a large hole left permanently; but under stimulation, these closed completely, but in doing so caused the arch of the soft palate to become somewhat higher than in those that healed by primary union throughout.

Two of the cases united by primary union except just behind the front teeth, and here a small but permanent sinus was left, which three months later was closed by a small flap operation.

In one of the cases, a boy 16 years of age, a large hole was left permanently by the sloughing of the attached end of the flap on the right side, next the alveolar border. The reason, I believe, why this was not completely closed, was that the cleft in the hard palate was an unusually wide one, and in trying to completely close the cleft, an insufficient attachment of the flap on that side was left, and there was not enough circulation brought to the flap to properly nourish the tissue, so that on the fourth day a separation took place. This I had hoped to close in later, but the boy, who was a hospital case, disappeared from observation, and I was unable to obtain any trace of him.

The other three cases, one child 5 years of age, and two adults, were almost complete failures.

The cause of failure in the child's case, so far as we were able to judge, was due to the child's working the tongue back, and in some way getting it beneath and behind the new palate, thus forcing the dressing out of the mouth, and in this way pulling the stitches out of the soft palate. A portion of the hard palate united.

Of the two adult cases, one was a complete failure, due to a secondary hemorrhage occurring on the second day, caused by the removal of a large group of adenoids two days before operation on the palate.

In this case, the bleeding was so profuse that all efforts to stop it failed, until we had packed beneath the newly formed palate, and this so disturbed the symmetry of the flap that sloughing followed, and it was three days before the hemorrhage finally ceased.

Failure in the other case, I am unable to attribute to any definite cause, except possibly that of infection, as one of the assistants who helped operate on the case was at the time suffering from a suppurative tonsillitis of which I was unaware.

Of the twenty-four cases operated upon by this method, the youngest was a few weeks under three years of age, and the oldest a few months under thirty-six years of age.

It would be better, I believe, if all cases were operated upon at an early age, the earlier the better, both from the standpoint of surgical results, as well as for the function of speech. Dr. Brophy, of Chicago, operates upon these cases in infancy, and the brilliant results which he obtains in so doing are second to none.

I have never had a case under observation but once when the child was a young infant, and then the operation was done by the old method at six months of age, the result being that a part of the hard palate was closed, but the soft palate and the remainder of the hard palate failed to unite.

Nearly all of my cases have been adults or those nearing adult age, but in the future, if all young infants are operated upon, we shall as time goes by see fewer and fewer cases of the adult type.

In my former paper I advised the closure of congenital clefts of the lip, when existing, at the same time the palate operation is done. Since then, experience has proved to me that we had better postpone the operative work on the lip until there is firm union of the palate, as the frequent dressings of the palate wound tend to moisten and delay union of the lip. The lip can be easily closed later if desired, under cocaine or eucaïne anæsthesia, and if done at this time it is much less trouble and work to care for it, than if done at the time of the palate operation.

While this operation is by no means an ideal one, yet by a constant care, and close observation of our cases, it is to be hoped that in the future an ideal method may be devised which will aid us in more successfully caring for this unfortunate class of human beings.

62 West Fifty-second St.

THE FALSETTO VOICE; ORIGIN AND RESPIRATORY TREATMENT; DENTAL IRREGULARITIES.*

BY MARCEL NATIER, M. D., PARIS.

From a pathological point of view, the falsetto voice is one presenting a shrill timbre and very disagreeable to the ear. It may be temporary or permanent. Its duration is quite indefinite. It appears to start especially from the period of the establishment of menstruation and some have claimed that it stands in correlation with an arrest of development of the genital organs. This is an error. Its explanation has also been sought in various obstacles situated at the level of the upper air passages. Tuberculosis evident or latent, has also been mentioned in this etiological connection, but these are merely hypotheses.

We believe for our part that the condition is referable to a profound disturbance of the respiratory function. This assertion is founded upon the study of a recent case. Having followed it very closely we have taken a series of tracings which our collaborator, l'Abbé Rousselot, has, with his accustomed skill, clearly interpreted. A perusal of these will aid in giving a clear idea of the pathogeny of this affection.

Observation.—Boy of 17 years, of vigorous appearance, suffering for the past two years from falsetto voice; has never been treated. January 24, 1902. The first tracing shows a definite defect in respiration. (Fig. 1.)

The holding of the vowel sound is quite bad. After inspiration marked by the descent of the line, the glottis closes, then opens itself for an instant; it then closes again, the vowel sound is emitted and lasts about three seconds.

March 24th.—The patient has not been able hitherto to place himself under treatment as he has not wished to interrupt his studies. Before taking him in charge a second tracing was taken as follows (explanation as before). (Fig. 2.)

There is also a slight progress in the holding of the "A." The vowel commences just at the moment when the line of expiration commences to rise. There is, then, in the larynx a slowness of movement greater than on January 29th.

* Read by title at the Twenty-fourth Annual Congress of the American Laryngological Association, held at Boston May 26-28, 1902.—Translation by J. E. Newcomb.

March 29th.—The exercises begun on March 26th, have been regularly followed. The patient appears more nervous than at the two previous séances. (Fig. 3.)

The interest centers on the emission of the vowel "A." It escapes after a slight loss of expired air and last ten seconds.

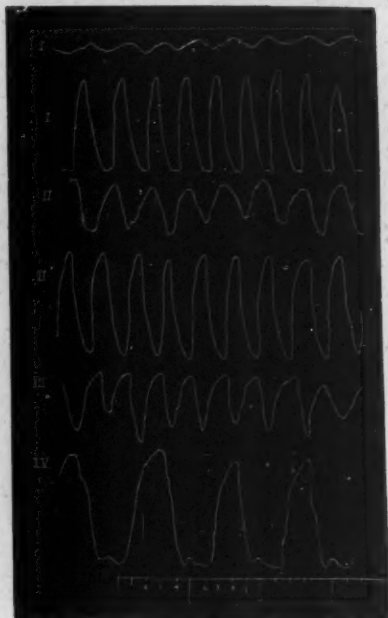


Fig. 1. January 29, 1902.

- I. Ordinary upper-costal respiration. I' forced.
- II. Ordinary middle-costal respiration. II' forced.
- III. Ordinary abdominal respiration.
- IV. The vowel "A."

The respiration not having been modified sensibly even to the end of treatment we have considered it needless to reproduce further respiratory tracings.

We have therefore confined ourselves to the reproduction of the successive tracings of the vowel "A."

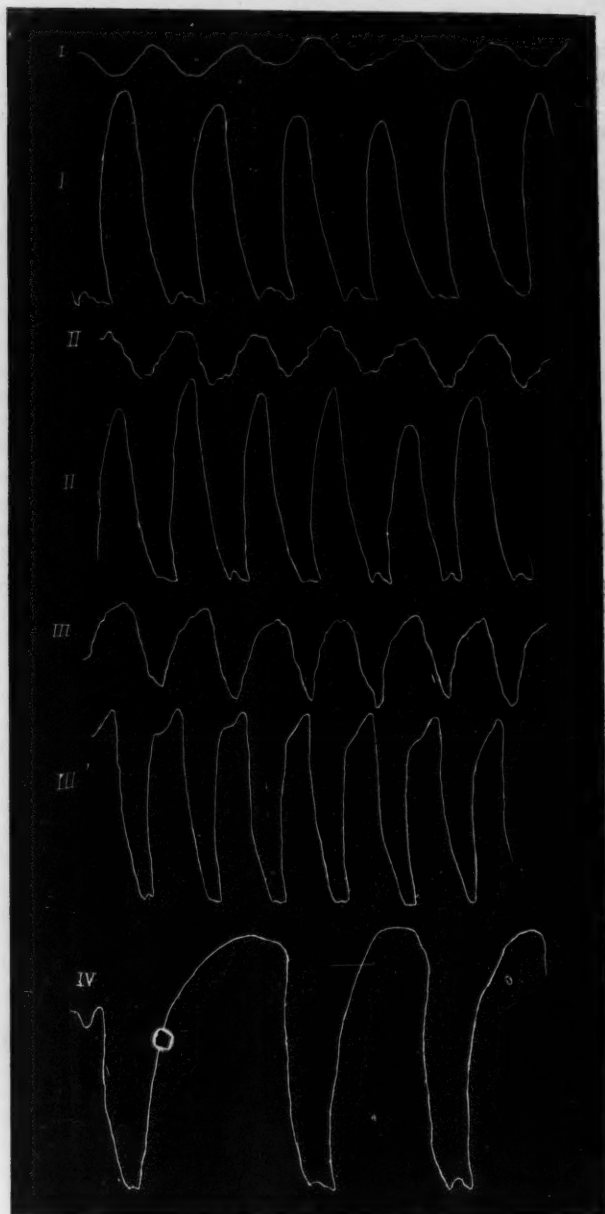


Fig. 2.

A progress is noted in the amplitude and especially in the regularity of the respiration.

The vowel sound is much improved, lasting 23 seconds.
The improvement in the utterance of the vowel "A" continues.
It lasts about 30 seconds. (Fig. 4.)

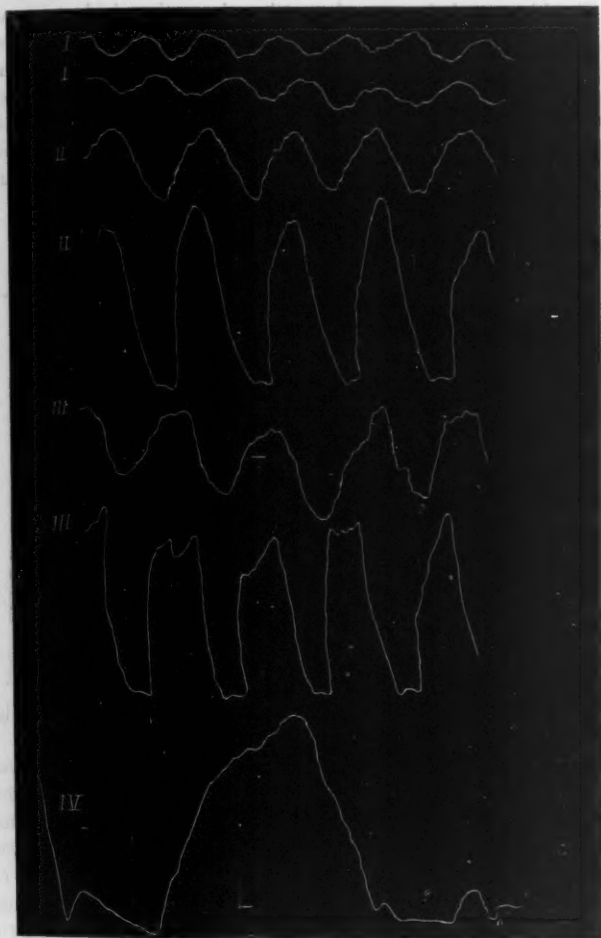


Fig. 3. March 29th.

The vowel sound lasts 33 seconds. The approximation of the vocal cords is more rapid and the air-loss less. This latter is grad-

ually reduced until it appears merely as a slight bend in the curve following inspiration. The curve of expiration during the emission of the vowel sound becomes more and more regular. The patient is not yet entirely cured. (Fig. 5.)

The history of the case shows that the patient had at an early age nervous tendencies. Even at the present time he has a very marked anesthesia of the posterior pharyngeal wall. He has always experienced a certain difficulty in respiration and easily becomes hoarse. Direct inspection shows a certain degree of the condition known as "funnel-shaped sternum," characterized by a depression more or less marked, of this bone. The dental irregularities exist-



Fig. 4. April 3d.

ing in the patient can be easily determined by reference to Figs. 7 and 8.

There is noticed an excessive asymmetry that has caused a very marked dental irregularities. Analogous case-histories have led us to believe that these dental irregularities are referable to respiratory disorders. The important conclusions from the points of view of both laryngologists and dentists are obvious.

In this particular case the larynx was in a measure of the infantile type. The vocal cords did not come in contact at the moment of sound emission. Their free borders formed a regular triangle with a base measuring about a millimeter. The patient was not able to maintain the sound for more than an average of seven seconds.

Under these circumstances respiratory gymnastics have appeared to us clearly indicated in order to restore to the organ its functional integrity. Success has been immediate. In fact at the first exercise the young man was able to speak in a low voice and sustained tone. He succeeded in holding the sound two seconds. From this time the improvement has been uninterrupted. He has quickly been freed from all vocal faults. The nasal tone has disappeared and the power of singing has been completely recovered. There still

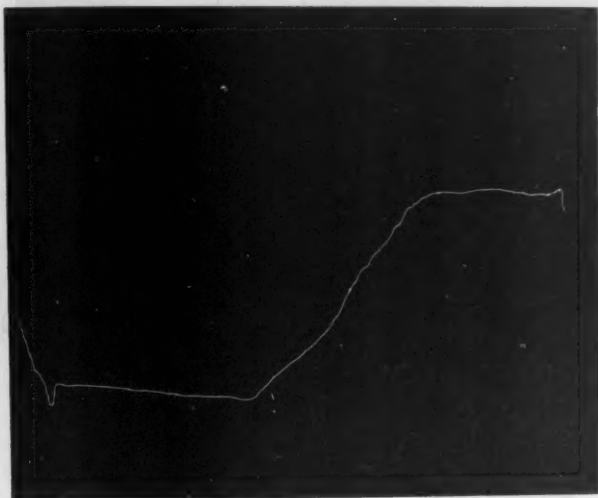


Fig. 5. April 5th.

persists at the moment of vocal emission a bi-tonal quality of the vowel "A." This is the result of the former habit of the patient who contracted his vocal cords too energetically.

Corresponding to restoration of function there have been interesting changes in the vocal organs. We cannot omit to mention them, for they explain the cure. Thus we have been able to note each day the progress made by the vocal cords. These, at first more or less rolled up, have become extended. Abduction, at first limited, has quickly recovered its amplitude. If adduction has required more

time for its complete restoration, it is nevertheless returning. The thoracic perimeter has increased in four days about three cm. and finally the patient has been able to maintain the sound for an aver-

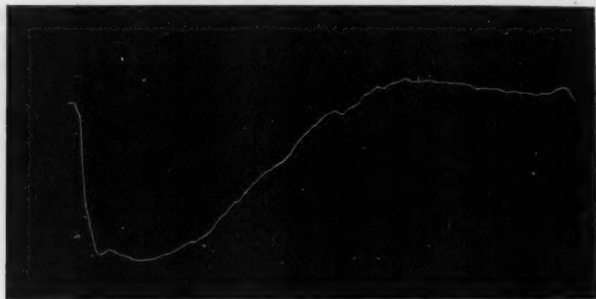


Fig. 6. April 7th.

age of thirty seconds, that is to say, three times as long as at the beginning.

For all these reasons and strengthening our views by the proofs afforded by the graphic method, we believe that we can rightly



Fig. 7. Superior Maxilla.



Fig. 8. Inferior Maxilla.

affirm that falsetto voice is occasioned by respiratory troubles. These must be corrected if we would gain the mastery over the disagreeable conditions referred to. Respiratory gymnastics appear to us to constitute the most efficacious and most rapid plan of treatment.

EXCISION OF THE EPIGLOTTIS FOR LUPUS.

BY TALBOT R. CHAMBERS, M. D., JERSEY CITY, N. J.

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The case here reported has four points of interest—the operation, the anesthetic, the diagnosis and its comparative rarity.

Lizzie Jansen, aet. 21, born in Sweden of good inheritance, a domestic, came to this country one year ago. On February 27th last she was sent to me by her mistress who, having small children in the family, feared to have Lizzie mingle with them, in case she might have tuberculosis. Her only symptoms were an infrequent cough and peculiar hoarse voice. Otherwise she was well and hearty. There was no history of syphilis, malaria nor rheumatism, except for some pains in shins, worse at night, and an amenorrhoea of four months' duration. Her loss of voice had a duration also of only four months. Any connection between the two does not appear.

Examination showed the rima glottidis partially obstructed by a bi-lobular tumor of the epiglottis, about the size of half an almond, which almost prevented vision of the cords. There were three punched-out holes on the lingual surface of the tumor. There was some swelling of the arytenoids and no involvement of the cervical glands. The chest was negative.

March 17th—No tubercle bacilli were found in the sputum nor in a section excised for the purpose of examination. The report was that this was of an endothelial type.

The treatment from February 27 to May 1 was the mixed treatment—Hydrarg. Bichlorid. .004 and Kali Iodide .30 t. i. d. During the last six weeks she took in addition 3.00 of Kali Iodide t. i. d. There being no appreciable change in the tumor, she was exposed to the X rays three times weekly for three weeks, still without any change in the tumor or symptoms.

June 6th.—Her condition, while not serious, was threatening, and she was very uncomfortable with a feeling of anxiety lest breathing might be suddenly stopped, and she welcomed operation for removal of the laryngeal obstruction.

She was anesthetized and the epiglottis with its tumor was excised. She was then put to bed. She had no disagreeable after effects. Precautions were taken, and for two days she was fed very care-

fully, but had not a single cough nor choking spell when swallowing food. One explanation of this seemed to be that she had, with the imperfectly closed rima, already learned how to swallow under the altered conditions. Today she is well nourished, strong and happy. The return of the tumor has become positive and she recognizes that her breathing is not as free as immediately after the operation. She has an occasional cough and low, hissing voice. It is to be noted that the menstrual flow has been reestablished after an absence of one year.

Operation.—It was decided not to do tracheotomy unless absolutely necessary, and it was found unnecessary, though we were prepared (and perhaps expectant) for it at any moment. We were afraid particularly of hemorrhage, but by swabbing the parts freely with Adrenalin from time to time, this danger was avoided.

With the kindly co-operation of Dr. Wolff Freudenthal, of New York, and of the hospital staff of Christ Hospital, the patient was anesthetized and several attempts were made to catch hold of the tumor, but these were all futile, though several of the most improved instruments were employed; some had teeth or sharp indentations. All failed. A so-called Brandigee adenoid forceps, having three cutting edges, was then successfully employed. With the first finger of the left hand as a guide, the cutting jaws of the forceps were engaged about the tumor and epiglottis. The anterior jaw was pushed well down toward the neck of the epiglottis. With one closure of the handles the epiglottis and its tumor were severed and Adrenalin was swabbed into the wound. There was quite some bleeding, which, however, was soon controlled.

On June 18th, with the patient in the chair in my office, after Cocain and Adrenalin had been freely applied, a small lump of tumor, about 8 cubic mm. in size, was bitten off with the same forceps, from the right epiglottis-tonsillar membrane. This was easily done while the patient was awake and thus confirmed the wisdom of Dr. Freudenthal's assertion at the previous operation—that on another similar occasion he would prefer to have the patient awake.

The Anesthetic.—The anesthetic was chloroform vaporized by oxygen gas. This was done by Dr. E. W. Harlan in an experienced manner. A rubber tube from a cylinder of compressed oxygen was connected with the bottom of a four ounce bottle containing chloroform. This bottle was suspended from the doctor's gown at a point just over his sternum, where it could be under constant supervision. From the top of this bottle a rubber tubing five feet long, carried the mixed vapor of chloroform and oxygen to a mask held over the

face of the patient at the beginning of the anesthesia. When the patient was thoroughly relaxed, the cone was removed and anesthesia continued with only the end of the rubber tubing held by the anesthetist. The tip of the tubing was generally held an inch or two from the mouth or nose of the patient, and anesthesia was uninterrupted. In case of heart failure the tubing may be disconnected instantaneously and oxygen substituted for the chloroform mixture, to be as quickly changed back when necessary. Many anxious moments are spared the operator by this ingenious device and as it has been employed by me in prolonged operations with great comfort, I take this opportunity to present it to the Section.

This form of anesthesia was introduced into this country by Dr. H. L. Northrup.¹ He reported for an anesthetic commission on 100 cases. They found that anesthesia was produced by this oxygen-chloroform mixture in from one to ten minutes, with an average of four and seven-tenths minutes. They claimed that one of the most prominent and satisfactory points attending its use was a rosy and healthful blush of lips and cheeks, and a bright red oxygenated state of the blood flowing from the wound. There was nausea and vomiting in about 30 per cent. of the cases. They stated that the pulse is occasionally slowed but it is full and strong; respiration not being affected. All these claims have been confirmed in my experience. Dr. T. D. Buchanan,² of New York, who has acted as special anesthetist for Flower Hospital, and after an experience of 1,200 successful cases, says: Dr. Northrup's C. and O. mixture is the ideal anesthetic; and it is of interest to note that he holds that a contracted pupil is the sign of complete anesthesia.

Diagnosis.—The diagnosis of the section taken from the tumor while *in situ* was endothelioma. Hence the possibility of cure by the X rays. This means of cure and the thorough exhibition of iodide failing, operation was called for. A section sent to Dr. A. O. J. Kelly, of Philadelphia, he reported upon as follows: "The specimen is unquestionably an example of hyperplastic tuberculosis; it presents not the slightest resemblance to endothelioma. I am entirely uninfluenced in my opinion by the failure to detect tubercle bacilli on two occasions and by the negative results of the use of the X rays, which I regard as of no differential diagnostic value—in this case at least. The failure to detect tubercle bacilli may very well have been due to relative fewness of the bacilli or to technical deficiencies, such for instance as the use of inappropriate fixing and hardening procedures and the like. I venture the assertion, however, that had a portion of the tissue been used under appropriate con-

ditions for inoculation purposes, the animals inoculated would in all probability have developed tuberculosis."

Having two contradictory diagnoses, I sent the specimen to Dr. Jonathan Wright, with the two reports of endothelioma and of hyperplastic tuberculosis. His report is as follows: "Examination of the slide submitted to me by Dr. Chambers would lead me to suppose that the growth is made up of low grade deposits with considerable hyperplasia of the endothelium of the lymph spaces. The deposit of small round cells in the neighborhood of the blood vessels, the areas of degeneration and occasional giant cells would point to a syphilitic or a tubercular origin. In consideration of the clinical history and of the facts as stated by Dr. Chambers, that the Iodide therapy has been thoroughly tried unsuccessfully, it would appear to me that in all probability the case was one of lupus. The three diagnoses of lupus, endothelioma and syphilis are of course to be considered. The absence of the tubercle bacillus and the inefficacy of the Iodide treatment would tend to rule out syphilis. There is not sufficient evidence in my mind to warrant the diagnosis of endothelioma as I understand the term, while the microscopic findings are not at all inconsistent with the diagnosis of lupus. Primary lupus of the epiglottis, while of course very rare, is not by any means unknown by experience, and I should be inclined to think that the most probable of the three diagnoses."

Rarity.—A careful search of the Index Catalogue of the Surgeon General's library fails to find record of but one case of excision of the epiglottis *per orem*. That one was reported by Dr. Miles³ as done by Dr. Mackenzie, of London. He used an instrument, which, from its description, was very like the tonsillotome which goes by the same name, only it had a wooden handle fixed at about 60°. The cutting blade was pushed forward by the thumb and forced through a metal ring. The patient was operated upon in a sitting position and awake. The tongue was firmly held by the operator and cocain was liberally applied. After the operation the patient was able to swallow solids, but liquids passed into the larynx. After the third day the patient was able to swallow as well as before the operation. Nine months after the operation the patient complained of the cough as still troublesome, but was otherwise greatly improved.

Mr. R. Lake¹² has just reported a second case, "where a man, 30 years old, whose throat had been exposed to a very thick cloud of nitrous vapor. Treatment for his dysphagia failing, his epiglottis was removed with the galvano snare. He reports the stump as

quite healed and healthy, but the arytenoid regions as slightly swollen."

A number of cases have been reported where a portion of the epiglottis has been excised *per orem*.

Dr. C. C. Rice,⁴ after trying and giving up galvano-cautery, reports two cases in which he cut off one-eighth from the sides of the epiglottis where they rested on the pharynx. The epiglottis was reached by using a tongue-depressor alone. One of the cases bled rather freely, but was checked by the application of Silver Nitrate, 60 gr. to the ounce. The inflammation following in both cases was moderate and subsided in two weeks.

Dr. Thos Hubbard⁵ relates a case where a woman 35 years old, was, when first seen by him, suffering with a low-pitched voice which was rather coarse, and spoke with some effort. Examination revealed almost entire loss of the epiglottis, probably through tubercular ulceration. There was only a small stump a centimetre in breadth and half a centimetre in length.

Dr. Angelesco⁶ reported a rare case of primary epithelioma of the epiglottis, which in its general clinical aspects resembled the case reported tonight. Tracheotomy was done and the epiglottis removed through an external wound. M. Cornil remarked on this case that tumors of the larynx are accompanied by ganglionic involvement of the neck very tardily or late, while the reverse holds good for tumors of the oesophagus.

Dr. Wm. Porter⁷ has this to say: 1. A diseased and ulcerated epiglottis is itself often times an obstacle to deglutition. 2. In certain affections of the epiglottis, especially of a malignant nature, its destruction is inevitable and involvement of surrounding structures certain, if the process is not previously limited. 3. Removal of the epiglottis does not necessarily directly nor indirectly threaten either the life or the comfort of the patient.

Dr. Czerny⁸ tied the superior thyroid artery and vein in a woman 61 years old, gave narcosis through a tracheotomy tube, made a cross-cut 8 to 9 cm. long under the hyoid bone and though the muscles, and removed a carcinoma of the epiglottis together with the right arytenoid. He cauterized the edges of the wound and stitched up the external wound. He left the tracheotomy tube in.

There are on record many cases of loss of the epiglottis by disease, where deglutition is readily carried on, but the voice has a hissing sound and is rough, coarse and indistinct.

As regards the tumor presented tonight, it was necessary to remove it. Was it better removed through an external wound? Would

it have been done more thoroughly? Would that method have guaranteed no return? By no means. The removal through the mouth, simple as it finally was, could be more expertly done with more experience, is admitted. It has the advantage of the minimum of cutting and has no external wound to be dressed. Once done, that is all—until the return of the disease, which is almost certain in any event.

The diversity of opinion of the new growth both before and after removal, by men of unquestioned ability is an interesting feature. The appearance of the tumor in the laryngeal mirror was one that with no lesions elsewhere, seemed to fall into the syphilitic group, especially with the punched-out holes to be seen on its surface, and its insensitiveness. Again, its insensitive and rounded shape and the normal surroundings would fit lipoma. Though the arytenoids were somewhat infiltrated, there was wanting symptoms usually classed as tuberculosis. Whether it be lupus or hyperplastic tuberculosis makes considerable difference. If the tumor is lupus, the patient has the probability of years of life. If it is tuberculosis, there is the greatest probability of infection by other germs at any time, speedily cutting short life within a few weeks or months.

Dr. M. J. Brooks⁹ has emphasized the fact so well known, that phthisis is tuberculosis plus mixed infection by staphylococcus pyogenus aureus, streptococcus pyogenus., Frankel's diplococcus, Pfeiffer's bacillus or the tetragenus.

Pure tuberculosis consists typically of closed foci, and the disintegration and degeneration of the tubercle with the consequent setting free of the tubercle bacilli is likewise only the result of mixed infection.

In the case presented tonight the infiltration is limited to the parts above the larynx. Thus far there has been no mixed infection and consequently no sputum. So long as there fails to be any disintegration of the tuberculosis, so long will the surface be intact and examination of the sputum, no matter how carefully made, fail to find tubercle bacilli.

If the patient could go to the high plateaus of New Mexico and be placed under the highest sanitary and hygienic manner of living she might recover health, be the disease tuberculosis. It is doubtful if lupus would so yield.

Primary tuberculosis of the epiglottis is generally admitted. The primary tuberculosis of the larynx which I have seen or read about, are without exception active and rapidly progressive to ulceration. This is one reason why lupus fits the diagnosis of the case presented

tonight better than tuberculosis. As to lupus, Dr. Emil Mayer¹⁰ was the first to make the statement that primary lupus of the larynx was a fact. His is the best history of laryngeal lupus and his article has an abundant bibliography. Langie, he quotes as saying: "If secondary lupus is rare, primary lupus of the larynx belongs to the rarest of diseases." Mayer says it occurs in the young, usually about the age of puberty, more often in the female, and may have as predisposing causes, poverty, bad hygienic conditions and that tendency that has been termed scrofulous. He says that lupus is tuberculosis, but is a certain form due to unknown biological characteristics of the bacilli and that in the larynx it attacks the epiglottis by preference. Shurley's¹¹ comprehensive and readable account in his book is acknowledged. He states, as do other writers, that the lingual face of the epiglottis is usually first affected. Its duration is slow and may cover a number of years, and may terminate in pulmonary or meningeal tuberculosis, or epithelioma (acc. to Morrow). Burnett¹² speaks of contracting bands or membranes or a general matting together of the parts, rather than the development of hyperplastic elevations. Gottstein has made the statement, verified by others, that the infiltration is often absorbed, at least partially. One month after operation on my case I reported to Dr. Freudenthal that the tumor was reappearing. There was difficulty in obtaining a view of the cords, but tonight, after five months, these swellings have disappeared and are replaced by firm bands, and a distinct view of the cords is obtained between these bands. This is a second reason why I feel justified in applying to the growth the term lupus.

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PERICHONDritis OF THE LARYNX.

BY MARSHALL R. WARD, M. D., PITTSBURG, PA.

Perichondritis of the laryngeal cartilages is by no means a common affection. It usually precedes a chondritis, in which case the attending results are always of the most serious import. If we exclude traumatism the etiology is always more or less obscure. We have it following tubercular and malignant disease of the larynx, syphilis, typhoid fever, diphtheria, scarlet fever, erysipelas, in fact, any infectious process, wherein there is serious disturbance to nutrition. Bosworth¹ reports thirty-three cases collated by him, two of which occurred in his own practice. Of these thirty-three cases, nine are given as idiopathic, nine as syphilitic, eleven followed typhoid fever, one was diphtheritic, one traumatic and two were probably due to lordosis. No mention is made of the cases due to tubercular and malignant disease, they being excluded on account of the graver symptoms which over-shadow the acute idiopathic form of the disease. This tabulated list while not large gives us an approximate idea of their frequency from an etiologic standpoint.

The morbid changes which may take place in the laryngeal cartilages differ in no respect from cartilages elsewhere. In a chondritis and perichondritis due to traumatism and rheumatism, the inflammatory exudate will likely terminate in absorption and resolution. The same may follow as a result of typhoid fever. But in the specific forms of the disease where the pathological changes are due to an infectious process, serious destruction to the cartilages and consequent deformity of the larynx may be expected.

The perichondrium being a dense fibrous membrane, when suppuration once begins beneath it, the pus will burrow along between the cartilages and its coverings cutting off the blood supply, when necrosis follows and the cartilages may be exfoliated *en masse*. When this stage is reached the tumefaction becomes marked, greatly interfering with the function of the parts. If spontaneous evacuation occurs or the pus cavity be freely incised the sequestrum, if detached, may come away with the first rush of pus, and the process of repair be rapid. When, however, the sequestrum or parts of sequestrum remain intact and the necrosis affects only a part of the cartilage, a profuse and long continued

suppuration and consequent impairment of the health supervenes.

Any one or all of the cartilages of the larynx may become involved in the inflammatory process. The thyroid, on account of its location and increased vascularity, is perhaps, the least likely to become affected, is less dangerous to life and is followed by less deformity and impairment to phonation. The frequency with which we meet with specific and tubercular ulcers on the posterior wall of the larynx will, I think, account for the relative frequency of involvement of the arytenoids. When we consider the amount of destruction to the mucous and submucous tissue that sometimes result from a process so infectious, it is a matter of no little surprise that the cartilages ever escape.

The early diagnosis of an acute idiopathic perichondritis and chondritis of the larynx is often attended with serious difficulty. Much will depend on the part or parts affected and the character of the infection. In the rheumatic and non-specific form of the disease where there is no suppuration or destruction of cartilage, and only slight deformity, the onset is insidious, the symptoms are at no time pronounced, and it will often escape detection. If, however, the process should be an infectious one, it will be followed by marked constitutional disturbance the same as we might expect to find in a similar process elsewhere. There is a feeling of general malaise, with chilly sensation, and in rare instances, a distinct chill, pain in the limbs and back, loss of appetite, rapid pulse, elevation of temperature, etc. The functional disability, which is always an early and pronounced symptom, now manifests itself, and then we have well-marked disturbances to phonation, respiration and deglutition. These symptoms will vary in intensity according to the cartilages involved and the amount of edema present. There is usually a sense of fullness or distention in the parts, together with tenderness on pressure, especially if the disease is of a specific or tubercular origin. As a rule, however, pain is not a prominent symptom.

In the early stage, a laryngoscopic examination will aid us but little to establish a positive diagnosis. The structural changes are by no means pathognomonic and the swelling and inflammation present may be readily mistaken for a more trifling affection. The history of the case, the external subjective and objective symptoms, together with a careful laryngoscopic examination may aid us much; but it is only, where we have a well advanced case with denuded or exfoliated cartilage, open fistula into which a probe can be passed, that the amount of destruction, or the true state of affairs can be determined.

The prognosis must always be guarded. No one can forecast with any degree of certainty the extent of destruction that may follow and the consequent danger to life.

The treatment is both local and constitutional. In the acute stage, if seen early, much can be accomplished by the external application of cold in the form of an ice-pack or Leiter's coil, together with the internal administration of pellets of ice. Failing in this way to promote resolution we may resort to scarification to establish local depletion and proper drainage. Absorbents, preferably in the form of ichthyol and lanolin in equal part applied externally, is recommended by Kyle.² In the rheumatic and specific forms, appropriate constitutional remedies should be given. Later the measures must be directed to the relief of the dyspnea, the management of the abscess, if any, and finally the relief of the resulting or threatened stenosis from cicatrices. When tracheotomy becomes necessary, the high operation is considered preferable, in that it affords local depletion, and a better opportunity for exploration and subsequent surgical procedure.

In this connection permit me to append the report of a case of specific perichondritis and chondritis at present under my observation:

L. K., age 53, of German descent, and a saloonkeeper by occupation. Eight years ago I treated him for a specific necrosis of the nose. Present trouble began in July, 1900. The onset was gradual and affected chiefly his voice, until in the course of two or three weeks there was complete aphonia, a troublesome cough and some difficulty in breathing. Pain was not a prominent symptom. The trouble was thought to be a simple and persistent cold, and for that reason no physician had been consulted until late in September, 1900, at which time he came under my observation.

Patient stated he had lost considerable flesh, which was probably due to his difficulty in swallowing. There was complete aphonia, stridulous cough and breathing, and marked dyspnea on the slightest exertion. There was no tumefaction, or perceptible tenderness to pressure over the larynx. A laryngoscopic examination revealed a swelling distinctly circumscribed, of considerable size, and confined to the left arytenoid. (See Cut No. 1) The chink of the glottis was so much encroached upon that no view could be had of the vocal and sub-vocal region. The swelling was dark red in color, solid and firm to the touch, and the presence of pus could not be demonstrated either by puncture or incision, both of which were freely applied.

A diagnosis of specific perichondritis of the left arytenoid was diagnosed, and on account of the serious obstruction to breathing and the gravity of the case, the patient was advised to go to a hospital, which he refused to do. He was then placed upon potassium iodide and allowed to go to his home. The next day I was hastily summoned and found him cyanosed and gasping for breath. Death was imminent. A tracheotomy was hastily performed, and on introducing the tube I found it angled off to the right. The patient was then sent to the hospital, where he remained for two months. After the operation there was consid-

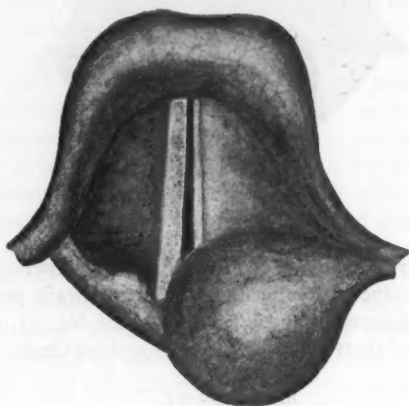


Fig. 1.

erable inflammation and swelling around the tracheal wound. This was so out of proportion to the inflammatory reaction that usually follows a tracheotomy, that I strongly suspected the presence of a malignant disease. Giving him, however, the benefit of the doubt, the iodides were pushed to their fullest extent until he was taking 300 grs. a day, and after a period of three or four weeks the swelling began to subside. The odor of necrosed bone was distinctly perceptible, and soon exfoliation began. The left arytenoid was the first to become detached and be expelled while in a fit of coughing.

Numerous other small pieces of ossified and necrosed cartilage, presumably from the cricoid, have since been removed. At present writing, April 16, 1900, I can still demonstrate the presence of necrosed cartilage, which cannot be detached or removed. The



Fig. 2.

tracheal tube is worn with comparatively little discomfort. Any attempt to introduce an intubation tube has always proved futile owing to the collapse of the larynx (see Cut No. 2), due to the displacement and destruction of the laryngeal cartilages.

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SOME CRITICAL AND DESULTORY REMARKS ON RECENT LARYNGOLOGICAL AND RHINOLOGICAL LITERATURE.

BY JONATHAN WRIGHT, M. D., BROOKLYN, N. Y.

(*Fourteenth Paper, Second Series.*)

During the last year or two much light has been thrown on the etiology of accessory sinus disease, but it must be confessed that the etiology of ozæna still remains as great an enigma as before. In previous reviews I have had occasion to speak of the importance of keeping in mind variations in the anatomy of the accessory sinuses, and have urged the probability that abnormalities of congenital origin may be marked predisposing causes in the occurrence of sinus disease.

As time has gone on, it has become evident that this is a point to which the attention of other observers has been attracted. Any one who has examined a large number of skulls has noticed how much variation exists. The frequent absence of the frontal sinus is a matter of great significance to the rhinologist called to operate on it when diseased. Mouret* in a very clear and concise paper, goes into the matter somewhat exhaustively, showing with considerable plausibility how the frontal sinus is really nothing but the development of one of the anterior ethmoidal cells pushed up into the frontal bone. However true this may be embryologically, it seems well supported by observations made on the adult skull and seems to explain very satisfactorily the numerous variations noted in the anatomy of the part. A similar work would be of still greater value if devoted to the elucidation of the variations of the sphenoidal antrum, a cavity vastly more inaccessible in a diagnostic sense, but also more frequently the site of disease which, were the diagnosis always possible, would demand frequent operation. Beyond the control of vision and to be only imperfectly investigated by the probe, it is an uncertain, and at present an unsatisfactory field, not only for the operation but for diagnosis. Fortunately we now know that the old declaration of Hyrtl,—that the sinus is inaccessible to operative procedure,—is entirely erroneous. Destruction of the middle turbinated bone is not at all an imperative necessity in reaching it, though the ablation of turbinal tissues is frequently indicated.

* *Rapports du Sinus Frontal avec les Cellules Ethmoidales. Par le Dr. Jules Mouret. Rev. Heb. de Laryng. etc. Nos. 46-57, 1901.*

There is another French paper which may be noted here apropos of the anatomy of the accessory sinuses by Dr. Sieur.* While he points out that the absence of the frontal sinus is less frequent than has hitherto been thought, he emphasizes his assertion that in almost a third of the cases, these sinuses have no relation with the ascending squamous portion of the frontal bone, thus supporting to some extent the remarks I have commented upon by Mouret. He, however, fails to make the point to which I drew attention, and which I think is by far the most important in a practical sense for the diagnostician and operator to keep in mind—that is, the very evident probability that these abnormalities are met with in a much larger proportion of cases on the operating table than on the dissecting table. Distortion or diminution in the size of the frontal sinus and its infundibulum, we are warranted in believing, must often in themselves be the predisposing causes of inflammatory conditions of the mucosæ of that cavity, leading to suppuration and to indications for operative procedures. This is a consideration which must of necessity apply to other surgical regions of the body as well, but, so far as I have observed, it has received little or no discussion.

In No. 50 of the *Rev. Hebdomadaire de Laryngologie*, 1901, Mouret and Lafarelle published some studies on morphological characteristics of the naso-pharynx. They show that the shape and dimensions of this cavity, its curvature and its anatomical relations, vary widely, not only in the adult but in the child. This fact, demonstrated on the cadaver by the numerous carefully reported observations of these gentlemen, only confirms the clinical impression which every operator of extensive experience must have formed. Without dwelling upon the conclusions the authors draw as to the methods of operation, and the instruments therefor, which all operators know must vary with the case, I desire again to make the suggestion that here in the naso-pharynx, as in the accessory cavities, variations in the shape and dimensions of the space must render some patients more liable to pharyngeal disease—adenoids and their sequelæ, than others. The narrowness of the nasal chambers themselves, usually accompanied by narrow jaws, has always seemed to me, both theoretically and from clinical experience, the predisposing local cause rather than the sequelæ of lymphoid hypertrophy in the naso-pharynx. I think this has been the tendency of belief amongst rhinologists of late years, supported by many manometric and anthropometric ob-

* *Rev. Hebdomadaire de Laryngologie*. No. 38, 1901.

servations, but recently Mayo Collier* returns to the well-worn theme of distortion of the jaws from the presence of nasal obstruction in childhood. His connecting link is the usual one of the rarefaction of air due to buccal inspiration. I confess it has always been impossible for me to comprehend how rarefaction of the air can take place above or in front of the post nasal adenoids during buccal inspiration more than in normal respiration. One must inevitably expect that the rarefaction within the nasal chambers is less, the greater the obstruction of the naso-pharynx. The rarefaction of the air must be greater below the adenoids—in the pharynx—but if the pressure thus exerted from the outside air amounts to anything here, we should get a sinking in of the fauces. Conversely we should suppose in normal unobstructed inspiration with closed mouth, keeping in mind as before the principle of the Sprengel air pump, that the air current descending from behind the curtain of the soft palate would cause a rarefaction of air in the buccal cavity, thus causing a lateral external pressure on the ends of the buccal arch. So far as I am able to see, therefore, on the theory of air pressure, there is a greater tendency to the production of the ogival arch in the upper jaw during normal nasal inspiration than during buccal breathing. Now, if we assume that the narrow arch comes only from nasal obstruction, we must perforce imagine that the further forward nasal obstruction is, the greater is the tendency to its production, an hypothesis which would exclude post-nasal adenoids. Such an assumption, however, the mechanical configuration of the arches of the superior maxilla does not warrant. If the nostrils are sewed up anteriorly in guinea pigs, we know, as the law of disease teaches, that the jaw atrophies and its foramina are smaller from disuse, but this teaches us nothing of the vicious influence of adenoids, because the obstruction in these latter is post-nasal—not antenasal, and the rarefaction of air is intra-pharyngeal, not intranasal. No satisfactory explanation has ever been advanced in the formerly widely accepted doctrine that adenoids are the cause of narrow jaws. As I have frequently said, I myself firmly believe not only from a priori reasoning but from careful clinical observation that the adenoids are the result, not the cause of narrow jaws—or better to put it—narrow obstructing, badly draining nasal passages, as so often occurs in the lepto-prosopic type of patient, are an important factor in the etiology of adenoids. They may occur, but less frequently, in other types of face, and the narrow jaw occasionally occurs without a trace of adenoids. There-

* *Lancet*, Oct. 18, 1902.

fore we must suppose that either as a result or a cause, the relationship of the two is far from being an absolute one. If I fail to see the force of all the arguments and experiments which have been advanced to sustain the views held by Collier and others, I have no excuse to offer, for I have tried very hard to do so in the many years which have elapsed since they were first advanced.

As to intranasal conditions, an error of observation is easily committed by accepting the patient's declaration of obstructed nasal respiration. Such subjective symptoms without objective explanation are common enough. Another error of observation may arise from simple rhinoscopic inspection. Obstruction to the view does not necessarily mean obstruction to respiration. The nasal passages may be tortuous and yet patent enough for respiration. The more general use of a proper manometer would frequently cause a more accurate apprehension of intranasal air currents. Note may here be made of the revival of a former invention by Courtade.* He describes an instrument for the "Graphic mensuration of the permeability of the nasal fossæ." It is simply several glass plates upon which the air in expiration is condensed in a cloud simultaneously from each nostril and from the mouth. While somewhat differing in design, the principle has been used by others. Perhaps on the whole it answers as well as the manometer, a form of which I experimented with some years ago, but it labors under the serious disadvantage of measuring the expired and not the inspired air, the force and direction of the latter being the part of the problem in which the most interest centers. One can readily understand the direction, the volume and the force of the expired air may differ radically from those of the inspired air. From the tracing of the vapor left on glass in expiration, one can not draw any very reliable or very instructive deductions as to the degree of obstruction to inspiration.

It is not only in the gross anatomy of the parts that the morphological factor in the etiology of the diseases of the upper air tract is neglected in the discussions of nasal and of post-nasal catarrh. We must keep in mind the assertions which have recently been made in Germany as to the congenital metaplasia of the epithelium in the nose being a factor in the etiology of ozæna. This reminds me the Grünwaldt† has reiterated his belief in what he now terms the focal origin of ozæna, but he so broadens the term ozæna as not only to include the lesion of atrophic rhinitis, accompanied by the charac-

* Ann. des Mal. de l'Oreille, Fev. 1902.

† Journal of Laryngology, Oct. 1902.

teristic crusts and odor, but all other nasal affections accompanied by the presence of dried secretions in the nasal chambers. He admits the difficulty of establishing in very many of the cases the situation of the focal suppuration, especially in the sinuses, during life, but he says nothing of the overwhelming consensus of opinion founded on post mortem examinations which has gradually formed since his brochure, now some ten years old, first saw the light. His ideas of etiology are now generally rejected.

Minder,* a member of Siebenmann's staff, publishes a long and very confused account of observations of the nasal chambers and the accessory sinuses made in fifty autopsies with especial relation to the connection between ozæna and sinusitis. He arrives at the conclusion of the majority of both pathological and clinical observers in the statement that the latter, when it co-exists is a result and not a cause of the former. His confirmation of the facts adduced by Siebenmann as to the metaplasia of the epithelium of the middle turbinate in its relation to atrophic rhinitis with ozæna is even more open to criticism than the original assertions of Siebenmann himself were—inasmuch as his autopsies were more than half of them on subjects over 50 years of age, a period of life in which we expect to find considerable metaplasia of columnar cells into pavement epithelium everywhere, and especially in the anterior region of the nose. An investigation of the state of the epithelium in the posterior regions of the nasal mucosa is promised and from this we may hope for considerably more light on this very problematic subject recently broached in nasal pathology. Still more instructive would be observations on the shape of the nasal epithelial cells in infants and still-born children, and in the foetus.

Another cause of sinus disease has been more generally recognized in serious pulmonary lesions. Kirkland and Stacy, in their articles in the *Journal of Laryngology* (Nov., 1902), rather incline to the opinion of Lennox Browne, that the frequent coincidence of sinus disease with fatal infectious and pulmonary lesions indicates that the former is the primary affection, thus negating the opinion of E. Fränkel and others that the sinus affection is as a rule only an incident in the course of an acute pneumonia or a chronic empyema of the thorax. Stacy examined 64 cases which had died from disease due to infection by micro-organisms. Of these 64, 34—more than 50 per cent—showed some affection of the sinuses, thus far in a general way confirming the observations of others; but while others have shown that the antrum of Highmore was involved at least

* Archiv f. Laryngologie, 1902, Bd. xii, Hft. 8.

twice as frequently as the sphenoidal sinus, Stacy more than reverses the proportion, showing the sphenoidal sinus affected in 29 of the cases, 19 of which were purulent in nature. The maxillary sinus was the least frequently involved. There is no indication to support the suggestion of Kirkland that these variations from the results observed in other autopsies are due to the climate or the latitude, Stacy and Kirkland having reported their cases from Sydney, New South Wales, in the Southern hemisphere.

The extent to which I have dwelt on the etiological aspects of sinus disease is warranted by the greatly increasing frequency with which all the sinuses are now explored by operative procedure, the increase being especially marked in the surgery of the sphenoidal sinus. Besides the papers recently contributed to this journal by Hinkel (Oct., 1902) and the paper of Bryan, in the *American Journal of the Medical Sciences*, (Sept., 1902). Guye of Amsterdam,* has reported four cases, in which the sinus was thoroughly opened and curetted for recurring nasal polypi. In former reports by Holmes, and indeed also in those of Knapp and other ophthalmologists, the relation of disease of this sinus to the optic nerves and to the orbit, had been formerly pointed out. The involvement of the fundus of the eye in inflammatory changes is by no means uncommon in sphenoidal sinus diseases, usually indicative of grave cerebral complications. While the very gravest symptoms are not infrequently observed in the course of suppuration of the sphenoidal sinus which frequently results fatally, it is becoming more evident constantly that there are other less severe forms of sphenoidal sinus trouble which give rise to annoying, but not necessarily dangerous symptoms. Polypi, suppurative and catarrhal sinusitis must now be considered as only partially investigated in any given case of these affections if the sphenoidal sinus is not thoroughly explored. Many an obstinate case of lateral pharyngitis, as well as the inflammation supposed to have its site in the pharyngeal tonsil, will in the future be found to depend on a vice of the sphenoidal sinus. Even if direct proof of this is at present often wanting, circumstantial evidence, especially in the form of the inexplicable obstinacy of the so-called simple post-nasal catarrh, has for many years been at hand in the experience of every rhinologist. While any distention of the sphenoidal antrum, either from neoplasm or secretion gives rise to much more severe cephalalgia than of the other accessory sinuses, polypoid degeneration and post-nasal dropping may be no more urgent in the affections of the sphenoid than in those of

* Berl. Klin. Woch., No. 8, Feb. 24, 1902.

the other cavities. Sir Felix Semon, in his recent brochure,* replete with the maxims of common sense, strikes a note which is as important as it has been foreign to recent discussions of the subject, and one in which I can heartily join. He advises delaying radical measures in ethmoidal sinus suppuration, where the symptoms are not distressing, and rightly intimates that brain complications are rare contingencies. In this regard so far as I have been able to note, it would seem that brain complications arise more often from operations for the relief of ethmoidal suppuration than from the disease itself.

Some very interesting work has been done in cultivating blastomycetes or yeast forms of micro-organisms from excised tonsils. It is impossible to differentiate some of these morphologically, if differentiation really exists; from those forms which Gaylord and others declare are certain cycles of the development of the micro-organisms found in cancerous growths. The demonstration of these organisms in tonsillar structure has been attempted for the most part in Italy, the country of Sansfelici.

Such a communication with a fairly complete literature reference may be found in the *Archivio Italiano di Otologia* (Oct., 1901), made by Bertarelli and Calamida. It seems to me the fatal objection to all this sort of work on the faucial and pharyngeal tonsils lies in the impossibility of an assured faultlessness of technique. In order to make plants on culture media, it is almost impossible to exclude the possibility of surface contamination, a consideration which has entered so largely into the critical discussion of the question of tubercular tonsils. The crypts and lacunæ of the lymphoid tissue which lie on the surface of the mucous membranes dip down and include the thickness of the tissue and leave such little space of solid substance between that it is impossible to make a culture as is done from a section of a solid organ like the liver. The presence of those very crypts and lacunæ at the junction of the deglutitory and respiratory tract argues for the probability that surface contamination must be frequent from the passage of the vegetable and fruit which is so apt to contain yeast plants as well as from the passing air current. It is in these crevices we may at any time find the richest microbial flora in the human body.

The fact, therefore, that they can grow the so-called blastomycetes out of culture plants from the tonsils is credible enough, but it is incredible that they can by any turn of aseptic technique exclude

* Some Thoughts on the Principles of Local Treatment in Diseases of the Upper Air Passages.

the possibility of surface contamination. As for the presence of blastomycetes demonstrated in the tissues by means of stains, which appear no more satisfactory for being highly complicated and for having in the formulæ numbers of unheard of or unfamiliar ingredients, this, so far as I have been able to pursue the literature, together with the claims of Gaylord and Schüller, is also unsatisfactory. A few years ago I described* such forms in an adenoma of the nose. Since then, I have noted their occurrence occasionally in various pathological tissues. Very numerous articles have in the last year or two appeared in many journals, which seem to confirm the wide-spread belief of earlier observers that these peculiar forms are not really protozoa or blastomycetes, but are hyaline degenerations of the fixed cells of the connective tissue.

Citelli, in a recent paper,† again describes them as occurring in the hypertrophied and degenerated mucosa of the inferior turbinated bodies, but they as well as the so-called protozoa of Gaylord and others are to be found most abundantly in the adenomata, either benign or malignant. The only criticism I have to offer to the conclusions of Citelli is that these bodies are not of the same character as "Mastzellen" or the eosinophilous cells, as he claims. I am inclined to believe that they are composed of the protoplasm found in the cell bodies, while the mastzellen granules are derived from the nuclei, but that both are the result of degenerative changes.

It is probable that in this country and in England we have accepted a little too absolutely the dicta of those who operate by extra laryngeal methods for laryngeal cancer, if the case is an operable one at all. The statistics of late, adduced from time to time by the expenditure of much ingenuity, show considerable advance in so-called cures over those of 20 years ago, yet at the best they are melancholy reading. It would be amply sufficient to remind us of the impotency of our art in the fight against cancer even were we to forget, as we sometimes do, the inoperable cases which are not reported at all. After all, cancer is—at least in its manifestations, at first a local disease, and if it is so localized at the edge of a vocal cord, or otherwise projects from a surface within the larynx, which it does not infiltrate, the statement that it may be eradicated by endo-laryngeal forceps does not outrage our common sense as not being within the range of possibilities.

* *Am. Jl. Med. Sc.*, Oct. 1890.

† *Archivio Italiano di Otolgia*, etc., Vol. xii, 1902, 8d.

Arslan* summarizes the reports of successful endo-laryngeal operations, 16 in all, and adds two of his own. To have freed 18 patients of carcinoma of the larynx by endo-laryngeal methods is no small triumph, while freedom from recurrence of the disease, in some cases lasting for twenty years, can hardly be surpassed in the annals of the extra laryngeal operation. We must agree, therefore, that this endo-laryngeal operation is more than indicated in certain cases, but it is impossible to believe that it can be successful where the infiltration extends beyond the superficial tissues. Now the important point is that by endo-laryngoscopic inspection alone, neither before nor at the time of operation can the degree of that infiltration be ascertained. During the course of the extra-laryngeal operation, both by direct inspection and by palpation, a degree of information as to the infiltration may be reached and advantage taken of it, which is manifestly impossible in the endo-laryngeal operation. On the other hand, as with intubation in diphtheria, almost every case will promptly submit to an endo-laryngeal operation at an early stage, while many a case will delay or refuse the extra laryngeal operation at a time when the prognosis is not yet entirely hopeless. In the face of the facts submitted by Arslan, indisposed as we may be to allow the admissibility of endo-laryngeal methods in many cases where laryngotomy is indicated, we can not but believe that each procedure has its own field, however much those fields may overlap and give rise to individual choice. The results attained by endo-laryngeal methods are not necessarily incompatible with what we know of epithelial cancer, but the operator can necessarily *never* feel that assurance that the whole of the growth has been removed, while with laryngotomy, such confidence is more frequently warranted. The cases of Fränkel and Schmidt have demonstrated that recurrence does not always defeat the ultimate result, but that subsequent operations are occasionally able to retrieve the failure of the primary intervention.

Arslan might very properly have drawn attention to a point that is usually ignored in the statistical reports of the results of operation for endo-laryngeal cancer, and that is the degrees of malignity in epitheliomata. Perhaps not in the larynx, but it is an undoubted fact that the phenomenon is occasionally observed of a benign clinical course in growths which bear every microscopical evidence of malignity. Now, when we arrive at the very small percentage of so-called cures and remember that these percentages are only made up from selected cases, we can not but question how much operation

* Archivio Italiano di Otolgia, Vol. xii, 1901, fasc. 2.

really had to do with the results. When we know that a very large proportion of the cases of laryngeal cancer we see are at once dismissed as inoperable, and when we consider that these cases are par excellence, those among which are found the highly malignant growths, while the so-called operable cases are presumably those among which the feebly malignant growths are apt to be found, this query assumes a very debatable aspect and even the ground still taken by some that every laryngeal cancer is inoperable, seems to assume a more rational appearance. The author, however, fails to place this matter in its proper light, though he, as do all others, remarks upon the favorable location of intralaryngeal growths for prompt recognition and for at least the temporary limitation of its infiltration. Besides the favorable location of the growth, the toleration of the patient, and especially the manual dexterity of the operator are the most important factors in the successful eradication of the laryngeal growth. This manual dexterity, I am sure, is not so great among the younger laryngologists as was possessed by those who had experience with the more numerous instances of benign growths which appeared in the clinics and offices of the early laryngologists, notwithstanding the fact that very many of us in the large cities see yearly more than a thousand larynges. Very few of us ever operate in a year on more than a half dozen endolaryngeal growths, while the average, I fancy, is much less than this. It is no more than frankness, therefore, to admit that few of us possess the requisite dexterity to extirpate anything more than a superficial or pedunculated growth without dangerous mutilation of intra-laryngeal structure. The dangers of the extralaryngeal operation itself and the loss of voice it is hardly necessary to dwell on here as weighing against the method. They are sufficiently appreciated by all.

Mention may be made of a report of two cases operated on in England by Yonge and reported in the *Lancet*, Nov. 15, 1902, in which the extirpation was extralaryngeal by means of a thyrotomy. The result as to voice and non-recurrence fully equals the two reported by Arslan and they form a good counterfoil to his argument for the endo-laryngeal method.

In the *Rev. Hebdomadaire de Laryngologie*, No. 43, 1901, E. Kraus, of Paris, relates the history of a case of laryngeal cancer extending over five years. The patient died of an intercurrent affection at the age of 84. During this period, while subjected to considerable pain, loss of voice and annoyance and the necessity for a time of wearing a tracheotomy tube, his days were spent on the whole with

a fair amount of comfort. The histories of three cases of laryngeal cancer occur to me, two seen very recently in which that period has been equaled and the patients are still alive and fairly comfortable. The other case was seen a few years ago. Nothing like a radical operation was done in either case, but in all of them, various incomplete internal procedures with cautery and forceps and caustic applications had been carried out by the physicians with whom I saw the cases in consultation.

Now, while thus far I am of the opinion that an early, extensive and radical operation is indicated in almost every case of incipient intralaryngeal cancer, it must be admitted in a spirit of fairness, which should govern the discussion of every such question, that results such as these obtained in the radical operation, would be paraded by its advocates as instances of the triumph of modern laryngeal surgery. I am sure even those of us who lean toward the advisability of even total laryngectomy in selected cases, will readily agree with those who still cling to the "laissez faire" policy, that much more time must elapse before a proper judgment can be rendered from a study of the cases which have lately been reported. An insurance of five years of endurable life from the incipency of such cases is a proposition from which the most sanguine surgeon would naturally recede in even the most promising of cases. For this is a limit, which, while it has been exceeded, would reduce the number of cases attaining it to a comparatively insignificant number.

In one of these reviews a year or two ago, I briefly reported two cases of epileptiform seizures following palpation of post-nasal adenoids. Exception was taken to the term epileptiform by Dr. James Hamilton (*LARYNGOSCOPE*, Oct., 1901), of Hamilton, Scotland. Having the impression that the pathogenesis of epilepsy was in itself only imperfectly understood, it seemed to me that "epileptiform" was a term sufficiently vague to attach to a phenomenon which I do not pretend to understand. Without stopping to take up a discussion as to names, which is always an unprofitable occupation, note may be made that Lennox Browne has lately pointed out, as Hack did 30 years ago, that the nasal fossa may be the seat of peripheral irritation in similar seizures. Ten years ago Collet dwelt on the same phenomenon. More recently Jousset* adds further testimony to the same clinical connection. The importance of local factors in the etiology of such cases is easily exaggerated. The rarity with which any local therapy permanently cures the nerve storm is only

* *Rev. Hebdomadaire de Lar. etc.*, No. 11, 1902.

too evident to the candid observer, but yet with asthma, hay fever, cough and a hundred other manifestations, a nasal spur or a vascular intumescence of the nasal mucosa has often in the past been erected to such a height that in a study of etiology it obscures the whole field. However, it is now plainly to be remarked from quarters which are apt to be very active in this sort of architecture, that a juster sense of proportion is being acquired and the local factors are becoming more and more secondary in etiological importance. Semon (l. c.) drops another pearl of wisdom in the declaration of his non-belief in the frequency of "reflex neuroses" having their origin in the upper air passages. I can only acquiesce in his assertion that a reflex neurosis, depending on a lesion in the nose or naso-pharynx, while of course not absolutely unknown to my experience, is a very great rarity, and with the advance in experience which only years can bring, I am much readier to recant my belief in some instances in which I supposed I witnessed the phenomenon that I am to believe I am now too obtuse or inexperienced to detect the connection between some lymphoid or cartilaginous or vascular swellings and the asthma, enuresis, cough or migraine which may accompany it. I have looked long and earnestly, I have stretched my credulity to the utmost, I have allowed my imagination to run riot, but I have never been able to collect in my mental storehouse the memory of any such category of cases of reflex neuroses as may often be gleaned from a single page of contemporary rhinological literature.

It is therefore hardly worth while to notice this still abounding but, happily, diminishing group of cases. In passing, however, mention may be made of the report by Carli* of a case of "reflex vertigo of the nose," due to the presence of crusts following curettage, which repeatedly ceased when the crusts were removed. As possessing a peculiar flavor of its own reference may also be made to a case of Aronsohn.† The perusal of the report leaves one in doubt whether to ascribe to the author a fund of humor which bursts the bounds of sober conventionalities, or a mentality to which that genial quality is a total stranger. In apparent gravity, he tells of a very intelligent lady of the highest social circles, who, every time she made an application of cocaine to her nasal mucosae for asthma, induced defecation. On his trying it with water, unknown to the noble dame, she had to precipitately retire from the presence of this gentleman of science. As a reflex phenomenon this story surpasses the far famed incident of Dr. McKenzie's artificial rose.

* Archivio Italiano di Otologia, 8 fasc., 1902.

† Archiv f. Laryngologie, Bd. xii, Hft. 8.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, December 23, 1902.

EMIL MAYER, M. D., Chairman.

Chronic Laryngeal Stenosis.

DR. JOHN ROGERS presents a child who had been intubated in the Willard Parker Hospital in December, 1896. The tube was "retained" and a laryngotomy was performed in May, 1897, and again in October, 1897. Nothing was found but a diffuse thickening of the larynx. When first seen, in January, 1899, she was wearing a tracheal canula. Dr. Rogers said that he did a laryngotomy and found nothing. The child was intubated a great many times with increasing sizes of tubes; finally an excrescence formed at the epiglottis, and this was excised. Last spring she was able to breathe without a tube by making use for two months of a special intubation tube, which had to be introduced with a good deal of pressure. This child was difficult to intubate, and she had been tracheotomized at least ten times. In the course of two or three days after the removal of the tube she would become suddenly asphyxiated. This he explained by supposing that as a result of the adductors being held apart so long they became more or less atrophied, and when brought into use suffered from cramp and so closed the larynx.

DR. ROGERS also presented a boy of four years with non-diphtheritic laryngeal stenosis. The boy had been first tracheotomized, and subsequently laryngotomy was done, but only general thickening of the larynx was found. This he had successfully treated with his special tube, which is made with the constricted portion just below the head equal to the size of the retaining swell of the ordinary tube, suitable for the age and development of the child. The retaining swell of this special tube is $\frac{3}{32}$ of an inch larger than the neck.

A third case presented was a little girl, who had never been tracheotomized, but had worn an intubation tube steadily for 23 months before coming to him. She had been successfully treated in the same manner.

Pemphigus of the Larynx.

DR. LEWIS A. COFFIN, at the request of Dr. O. B. Douglas, presented a trained nurse, who had been under Dr. Douglas' care for some time without improvement. The principal trouble was an ulceration of the epiglottis. In other parts of pharynx, and especially on the soft palate, there would suddenly appear a pseudomembranous patch, which would change from time to time. The bacteriologists of the Massachusetts General Hospital had examined these membranes without being able to make a diagnosis, and the laryngologists there were also in doubt. Dr. Coffin said the pseudomembranous patches were the coverings of broken down blebs. Dr. Jonathan Wright had made the suggestion that this was a case of pemphigus or of herpes of the throat, which diagnosis was born out by a pemphigoid eruption about the umbilicus. About four years ago "blisters" had appeared on the gums. These were often produced, and were always aggravated, by the wearing of a teeth plate. Dr. L. Duncan Bulkley had examined her and confirmed the diagnosis. The eruption about the umbilicus did not present, he said, the characteristics of eczema of this region; it appeared to be pemphigoid. The same character was presented by the lesions on the velum. In his experience it was very rare for the disease to develop so slowly and remain localized in the air passages so long. The patient complained of painful deglutition and of neuralgic pains about the throat, which Dr. Coffin said was the clinical picture of an herpetic condition perhaps, rather than pemphigus. The prognosis as to cause is grave. Arsenic is the drug which has proven best results, together with soothing and, so far as practical, protective applications.

Fibroma of the Naso-Pharynx.

DR. THOMAS J. HARRIS presented a man of 70 years, with fibroma of the naso-pharynx. For about eighteen months he had had increasing nasal stenosis, and repeated hemorrhages, both from the nose and from the throat. Examination showed a nasal spur covered with muco-pus, and a tumor filling the naso-pharynx. The latter felt very hard, and bled readily when touched. It apparently originated from the vault of the naso-pharynx. Two unsuccessful attempts were made to remove the tumor by passing a snare through the nose; finally, with an unusually strong snare and wire most of the growth was removed with the cold wire, and then the Brandegee forceps was used to remove the base. Microscopical examination showed the growth to be a pure fibroma. Either as

a result of the manipulation or of infection an acute otitis developed on the right side. In Bosworth's book, published in 1881, 58 cases of this kind were reported. Some years ago no effort was made to operate upon such growths through the nose; instead, they were treated by an external operation.

DR. A. B. DUEL said that he had had three cases of chronic laryngeal stenosis, all of which had suffered from retained intubation tubes, and had been tracheotomized because of the frequent auto-extubation. In all of these tracheotomized cases a cicatricial band was apt to form just above the tracheotomy wound. He had obtained the larynx of a child who had died in an attack of asphyxia after the expulsion of the tube. In this larynx there was a dense cicatricial band in the trachea below the cords. Two of his cases had good speaking voices, and the third spoke in a whisper except when excited, and then was able to shout.

DR. FRANCIS J. QUINLAN said that in two cases of laryngeal stenosis he had seen-sawed an ordinary piece of gauze to break down the adventitious band, and this simple method had answered very well, as it made room for the intubation tube that was subsequently placed in position and retained until some weeks afterwards, when auto expulsion took place.

DR. E. MAYER said that in the non-diphtheritic case of stenosis it was possible that the stenosis had been due to a papilloma. Just as soon as one attempted to intubate any case of chronic stenosis, while exerting the necessary force the air was cut off from the patient's lungs; hence, in such cases he would advise the use of the intubating instrument having a hollow handle, such as he had devised and presented to this Section. Quite recently he had intubated a case of chronic stenosis, and it was to the non-membraneous stenosis that these remarks were applicable only, and it was remarkable how easy it was to intubate in this manner. No asphyxia was produced, not for a second.

DR. ROGERS said that he had had 14 cases of retained tubes, and that all had been cured except one. The main principles in the treatment employed was to keep the larynx as widely dilated as possible in the region of the vocal cords and just below them, and to leave the dilating tube undisturbed from four to eight weeks. The one failure in this list was a death following auto-extubation. A child of four years had worn her tube quietly in the hospital several weeks and at the solicitation of her parents was allowed to go home, where she was given a lobster salad, vomited and ejected the tube and choked before assistance could be obtained. Though

auto-extubation of these large tubes is rare, and if it occurs is not apt to be fatal, as the accident cannot well happen before considerable widening of the larynx has taken place. Nevertheless this fatal case shows that it is well to have the patient constantly in a hospital, or at least close to skilled aid.

DR. JONATHAN WRIGHT said he had seen two or three cases of pemphigus of the larynx. Blisters form in this region only in connection with herpes or pemphigus, traumatism excepted. He was not sure whether Dr. Coffin's case was one of herpes or pemphigus. The most successful treatment in most of these cases was by general tonics. According to the literature, over half of these patients die eventually of pneumonia. It was often difficult to make the diagnosis because of the resemblance to diphtheria and to syphilis after the blebs had collapsed. On microscopical examination he had found nothing but simple blebs, formed by the effused serum, raising the epithelium.

DR. GEORGE B. MCAULIFFE said that in view of the polymorphic character of the eruptions produced by iodide, he would like to know whether the administration of this drug could be responsible for the case presented this evening.

DR. FRANCIS J. QUINLAN said that the patient referred to by Dr. Wright he had seen with this affection, had suffered from it for eighteen months, and her companion had a similar herpetic eruption, which had only been noticed for a few weeks. These patients said that there was neither pain nor discomfort with the condition except when spiced food was used.

DR. THOMAS J. HARRIS asked how the clinical picture of a localized primary lupus of the epiglottis would differ from the condition under discussion.

DR. WENDELL C. PHILLIPS said that the patient told him she had lost twenty pounds since the beginning of this affection, and that she lost several pounds with each attack. He had been impressed with the irregularity of the epiglottis. Possibly this was due to the removal of portions for examination.

DR. E. MAYER said that on careful examination one saw a number of small blebs on each side, and in addition an enchondrosis of the epiglottis. The clinical picture presented was certainly that of herpes, though the thickened epiglottis would point to another condition that might coexist. This last might be lupus, though the swollen epiglottis in this latter affection was more turban-shaped than here. The removal of a small piece of this epiglottis might show a very few tubercle bacilli. If so, the diagnosis of herpes would be sustained.

DR. COFFIN said that three snippings had been taken from the epiglottis, which, to an extent, accounted for its irregular appearance as well, perhaps, as for its angry look. In answer to the question raised as to whether some of the eruptions either of the mucous membranus of the throat or of the skin might not be from the use of iodide of potassium, Dr. Coffin said that the eruption had been of the same character for from four to five years, while the patient had taken the iodide of potassium for less than four months.

DR. BRYSON DELAVAN, speaking of Dr. Harris' case, said that he had carefully searched the literature with regard to fibromata of the nose and pharynx, and had been able to find only about 200 cases. One method of treatment was by the galvano-cautery snare, as introduced by Dr. R. P. Lincoln; another was by electrolysis, and a third was by the use of the snare. The electric method had proved to be the best of all, though it was more difficult than the others. Nevertheless by the cold snare and evulsion the very best results had been obtained by operators abroad.

Fein's New Curette for Adenoids.

DR. J. E. NEWCOMB exhibited this curette which, he said, had recently been exploited in Vienna. He was interested in it chiefly as a curiosity.

Soft Steel Probes.

DR. C. G. COAKLEY presented some soft steel probes which were graduated, and had the advantage over silver of being less yielding.

Lip Retractor.

DR. E. MAYER presented a new lip retractor, which was useful in irrigating the antrum of Highmore, and for use in operations in this region.

The Anatomy of the Sphenoidal Sinus, with Special Reference to its Relation to the Antrum of Highmore.

DR. HARRIS PEYTON MOSHER, of Boston, Mass., presented a paper on this subject. This paper will appear in full in the March issue of THE LARYNGOSCOPE.

DR. COAKLEY said that the Section was greatly indebted to the author for this valuable contribution. Some years ago he had himself attempted the same method of entering the sphenoid, and had found it a very painful method, because it was very difficult to cocaineize the under surface of the cribriform plate. The method he had found less painful and more serviceable consisted in passing a probe across the middle turbinate at an angle of 45°, and having

passed in a distance of 6.5 cm., he felt sure he was at the lower and anterior border of the sphenoid. The probe was then pushed upward gently until the vault was reached. Occasionally the opening of the sphenoid sinus was visible. He had tried Jansen's method on the cadaver, and he was not in favor of this method, unless all of the sinuses were involved. To open through a healthy antrum and enter the sphenoid did not seem to him a wise procedure.

DR. COAKLEY presented specimens to illustrate the difficulties referred to.

DR. A. B. DUEL remarked that he had seen Jansen operate very boldly last summer upon several cases. Personally he was of the opinion that the most direct route was through the maxillary sinus.

DR. E. MAYER said that in severe sphenoidal disease the patient complained of very severe pain, and the eye symptoms were exceedingly pronounced, so that the diagnosis was not difficult. There seemed to him little doubt that the coming operation for sphenoidal sinus disease had been outlined by Dr. Mosher in his paper, and it was probable the results would be as brilliant as those obtained in frontal sinus disease. This was a subject worthy of the most careful study and serious consideration.

In this connection he would say that he had seen a number of cases operated on by Jansen, and there had not been any insurmountable obstacle to the operation on the sphenoidal sinus by way of the antrum of Highmore. The results will have to be carefully collated.

DR. MOSHER, in closing the discussion, said that the finger in the posterior nares at the choanæ would be found a very useful guide in operating. Of course, the operation was most suitable in cases of combined empyema, but the method was certainly very tempting, even in bad cases of ethmoiditis.

THE LARYNGOLOGICAL SOCIETY OF LONDON.

Seventy-seventh Ordinary Meeting, December 5th, 1902.

E. CRESSWELL BABER, M.B., President, in the Chair.

The following cases, specimens and experiments were shown:

Case of Nasal Deformity in a Woman.

Shown by Mr. W. R. H. STEWART. This case was shown to the Society in February, 1894. She had then suffered from a bad smell from the nose for eight years, and more recently the nose had become blocked and sore, followed by falling-in of the sides of the nose. She had been treated by Mr. Stewart by the application of an 80 per cent. solution of lactic acid and the passage of bougies, which was followed by some improvement. The patient then became pregnant and was lost sight of until a month ago. At the present time the alæ had quite fallen in, and there was considerable contraction in the vestibule, and the septal cartilage was bent over. The case was shown in the hope of obtaining suggestions as to treatment, operative or otherwise.

Case of Strumous Ulcers of the Mouth and Tongue.

Shown by Mr. W. R. H. STEWART. The patient, a domestic servant, æt. 30, had suffered from ulcers on the tongue, lips, and cheeks for about four years, recurring at intervals and lasting for three weeks to a month. She had been under treatment for two years. Anti-specific treatment made them worse. For the last twelve months she had been taking from one to two grains of sulphide of calcium three times a day, and Angier's petroleum emulsion. At the present time she did not have so many ulcers, and they did not last more than one week. Mr. Stewart wished to know if anyone could suggest a better line of treatment.

Mr. W. G. SPENCER said he thought it was a pity to apply the term "strumous" to the conditions here seen, for that term was generally understood to mean tuberculous. They were herpetic ulcers—or, rather, vesicles, for they could scarcely be called ulcers—and as such kept on recurring. They were very easily treated by some strong astringent. Mr. Butlin's treatment was 10 per cent. solution of bichromate of potassium, but even with this they reappeared in three weeks. They were attended by stinging pains.

The causes were not known, but the condition was due to something more active than nerve lesions and neuralgic pains.

DR. FURNISS POTTER thought this case was like the one he had shown at the last meeting, and he should accordingly feel inclined to agree with the previous speaker in calling it a case of herpes. In his own case he had tried touching the ulcers with a 20 per cent. solution of chromic acid, but without any effect. He was of opinion that these cases were identical with those mentioned by Osler as "stomatitis neurotica chronica Jacobi."

Specimen of Malformation of the Oesophagus.

Shown by MR. F. J. STEWARD. The specimen was taken from a baby who was admitted into the Hospital for Sick Children at the age of five days with a history that, after taking the breast, apparently the whole of the milk taken was regurgitated in about five minutes.

Examination demonstrated a complete obstruction in the oesophagus five inches from the gums.

Gastrostomy was accordingly performed, and feeding commenced at once.

The child did well at first, but sank and died nine days after operation.

The specimen would be seen to belong to the most common variety of malformation of the oesophagus.

The upper portion of the oesophagus was dilated, and ended in a blind extremity about one inch above its bifurcation of the trachea. The lower portion of the oesophagus communicated at its upper end with the trachea immediately above its bifurcation. The opening into the trachea admitted a No. 8 catheter. The actual gap in the oesophagus would be seen to be about half an inch in extent.

The other organs were healthy, with the exception of the lungs, which contained some milk presumably regurgitated.

Laryngitis Hypertrophica in a Girl æt. 21, following Prolonged Nasal Trouble.

Shown by MR. HUNTER TOD. The patient had suffered from nasal obstruction, due to continuous nasal catarrh, for five years. For the last four years she had been hoarse, and had been troubled with a severe cough and continued hawking up of mucous secretion from the throat.

She came to the London Hospital three months ago, and was found to have marked hypertrophic rhinitis, with much muco-pus tricking down the pharynx into the larynx. The larynx showed marked hypertrophic of the interarytenoid region, and also of the vocal cords, which latter were very thick, irregular, and of a red beefy appearance, and there was considerable muco-purulent secretion to be seen.

The nose was first treated, the hypertrophic tissue being removed by the snare. The nose and pharynx were now practically normal; there was no longer any nasal obstruction, and no muco-purulent secretion in the pharynx.

Mr. Tod said he brought forward this case in order to obtain advice as regards the further treatment.

DR. HERBERT TILLEY advised that the interarytenoid mass should be removed by cutting forceps, and nitrate of silver frequently applied to the cords. He had completely restored the voice in a similar case by these means. The hoarseness was mainly due to the fact that the heaped-up epithelium and subepithelial connective tissue formed a wedge which prevented adduction of the vocal cords.

MR. STEWARD said, *apropos* of Dr. Tilley's remarks, that this girl had been under his care for a great many months. He had removed large masses on four or five occasions, and she had, as in Dr. Tilley's case, recovered her voice, but for a short time only, when the trouble had all recurred. Therefore he would like to know whether Dr. Tilley's case had been watched for any length of time, and if so, whether the improvement had been permanent.

DR. TILLEY, in reply to Mr. Steward, said the case he had referred to had kept free for five months.

DR. FITZGERALD POWELL thought the condition might be very much improved by daily washing the larynx with an alkaline antiseptic solution, with a view to getting away the tenacious mucus. Possibly the insufflation of alum in addition would be of benefit. The chronic condition was possibly the result of nasal obstruction and the septic discharge from the nose.

DR. DUNDAS GRANT had described such cases as "post-rhinitic pseudo-pachydermia." He remembered a case of old standing in which rapid improvement was obtained by repeatedly washing out the nose and applying a solution of salicylic acid to the laryngeal swelling.

A Lantern Demonstration showing the Normal Fluctuations of Air Pressure in the Upper Respiratory Tract, By Dr. Scanes Spicer.

This demonstration was given to bring to the knowledge of those members of the Laryngological Society present some of the results of his recent investigations on the normal fluctuations of air-pressure in the upper respiratory tract, and the effect on these fluctuations of experimentally induced alteration in calibre of the nasal channels in himself. He also showed charts with observations automatically recorded on persons who did not know what was

expected of them, and he invited the members present to repeat these experiments on themselves there and then, and test the accuracy of his conclusions. He suggested that a naturally wide rima, with the consequent diminution of normal pressure fluctuations and lessened rythmical stimulus to circulation in the blood-vessels, leading to diminished nutrition of the walls, was the long-sought explanation of the origin of so-called atrophic rhinitis. His researches would shortly be published in detail.

THE PRESIDENT thought that the Society was much indebted to Dr. Spicer for describing to them these experiments, which had extended ever so long a period. In order to criticise them one would need to be a physiological physicist as well as a rhinologist. He would like to ask Dr. Spicer whether he had found the apparatus of any practical value in the diagnosis, prognosis and treatment of cases. He understood Dr. Spicer to say that he was able to determine by the results of these experiments whether the patency of the nasal cavities was normal. He would like to know how this was done. Dr. Spicer's remarks as to the causation of atrophic rhinitis were extremely ingenious and suggestive, and lent themselves to discussion.

DR. DUNDAS GRANT said he thought there would be no great difficulty in accepting Dr. Spicer's views, in so far as they related to physical facts, even if some members might dispute his interpretations of them. He thought the occurrence of negative pressure—if they understood what each of them meant by the use of that term in physical science—was beyond dispute. He himself was quite prepared to accept these experiments exactly as Dr. Spicer had given them; his little knowledge of physical science would have led him to anticipate such results. He suggested that they should be performed quietly before the Society, either at a special meeting or before a specially appointed sub-committee of the Society with power to add to its numbers, and that, in order to make them still more convincing, they should be carried out upon individuals who did not know what results were expected or—might he go the length of saying—desired to be obtained.

He had himself, with a roughly made manometer, tried a similar experiment to those of Dr. Spicer. By watching the rise and fall of a colored liquid he had, in this rough way, obtained results which confirmed those of Dr. Spicer. There was also during the moment of swallowing a distinct dip in the manometer tube, much more marked if the nose was obstructed at the same time. He had also made a model in which were placed manometer tubes corre-

sponding to the two Eustachian tubes, and he found that, in the one on the side of the nostril which he had blocked, there was, during inspiration, a more distinct dip than in the other. He allowed, however, that it was dangerous to apply to biology results derived simply from physical materials. It had always seemed a little difficult to explain why expiration did not exactly neutralise what was effected by inspiration; this was made very clear by Dr. Spicer. In Donders' experiment the difference in the negative pressure during inspiration and in the positive pressure during expiration was very marked, but he thought Dr. Spicer had made it more clear to them when he showed them that it was only when obstruction was present that the difference between these two was so marked as Donders found it.

DR. LAMBERT LACK thought Dr. Spicer's experiments were quite unreliable, and that his instruments would give any desired result. That there was a negative pressure in the upper air-passages during inspiration and a smaller positive pressure during expiration were surely facts that needed no further proof. Of necessity also these pressures were increased by any obstruction to the air stream. The unreliability of the instrument or of the method of using it had been demonstrated that afternoon by the fact that two observers found quite different effects on the air-pressure resulting from the act of swallowing. Again, Dr. Spicer demonstrated that there was no variation at all of the air-pressure in the nose when the nose was completely obstructed and mouth breathing was resorted to, although a little consideration would show that this result was absolutely at variance with all the laws of physics. There must be a negative pressure during inspiration, not only in the direct path of the air stream, but in every column of air in direct connection with it. If this were not so Dr. Spicer's instrument would not record any variations at all.

DR. HILL thought the subject ought to be thoroughly discussed in order that they might arrive at the general opinion of the Society as a whole regarding it. Some members might discredit Dr. Spicer's interpretation of the experiments, as Dr. Lack had done; others might endorse his conclusions; and others, again, might think there was some truth in Dr. Spicer's position without exaggerating the clinical importance of negative pressure. They ought to endeavor to thresh the subject out before the forthcoming discussion on nasal obstruction in reference to some forms of middle ear disease.

DR. SCANES SPICER, in reply to the President as to whether these experiments would have any practical value, said he thought that in doubtful cases the use of his naso-manometer, under the conditions he had stated, would afford a test of the presence or not of obstruction, and would so become a clinical stenosisimeter. The apparatus afforded absolute physical evidence of the normal fluctuations of air-pressure, and also how these fluctuations were altered by obstruction. It was not necessary even to insert the tubes in the nose, for readings taken in the mouth—always, be it understood, with the precautions he had mentioned—accurately indicated the pressure conditions in the nose, and therefore whether the nasal passages were sufficiently patent, other conditions being similar. Fluctuations of the column in excess of the normal indicated stenosis. Provisionally he would suggest $+7$ mm. and -7 mm. of water as the limits of physiological fluctuations of pressure for ordinary quiet breathing at rest, whereas the normal appeared to be -5 and $+4$ respectively. Dr. Dundas Grant thought that it was hardly necessary to have experiments and physical measurements on these matters, for the clinical evidence of the ill effects of nasal obstruction was so overwhelming. He quite agreed we should be quite justified in all other practical work of life in acting on much less conclusive evidence than we had in clinical proofs here, but he thought that experiments and physical measurements were also necessary to remove any shadow of doubt, and to place the subject on a scientific basis. He had shown them a number of charts, the results of investigation upon persons who had no idea of physics or physiology, or what was expected of them, and the results in essentials were the same as those in himself. With reference to Dr. Grant's observations on the effect of swallowing, and on the more marked fluctuations of pressure if nasal obstruction were present, he had not observed these phenomena; but had found that, in himself at all events, there was no fluctuation of pressure in the naso-pharynx at the moment of swallowing, but a positive fluctuation during the expiration which followed. Dr. Lack would find that he could not manipulate the results at will. If he would consent to be tested with the apparatus, and allow the speaker to obstruct the former's nose, he would soon find the limits of voluntary and intentional manipulation.

A Series of Anatomical Preparations demonstrating the Artificial Production of Edema of the Larynx.

Shown by DR. LOGAN TURNER. Injections of *carmine gelatine* were made into the loose submucous tissue in various situations

in fresh specimens of healthy larynges. In some cases moderate, in others forcible injections under considerable pressure, were made, and in this way both the amount of development and the limitations of the loose areolar tissue were defined. The results thus obtained closely simulated the conditions met with clinically. The injection was allowed to cool and set, and the preparations were then hardened in Jores' fluid and preserved in glycerine. In this way the spread of odema from the tonsil and lateral wall of the pharynx was demonstrated, also odema of the glosso-epiglottic fossæ, ary-epiglottic folds and pyriform sinuses, the false cords, true cords and subglottic region.

Specimen of Abnormal Narrowing of Larynx and Trachea, probably Congenital.

Shown by DR. LOGAN TURNER. This specimen was removed *post mortem* from a man æt. 70. He was markedly alcoholic, but apparently suffered from no respiratory difficulty during life.

The *post mortem* examination, which was carried out by Dr. Harvey Littlejohn, from whom the specimen was obtained, showed the body to be well nourished; the thorax was markedly barrel-shaped, and there was drawing-in of the lower costal cartilages. There was considerable emphysema of the lungs and some old pleural adhesions. The pericardium was universally adherent to the heart, the aorta was dilated, and there was hypertrophy of the left ventricle.

There was no glandular or other enlargement in the neck or mediastinum.

The specimen showed the epiglottis of the infantile type being curved backwards, and there was considerable narrowing of the upper laryngeal aperture. The trachea was flattened from side to side throughout its entire length, the lumen of the tube being considerably narrowed.

The two main bronchi presented a normal contour.

MR. W. G. SPENCER wished Dr. Turner to tell them about the thyroid, as the trachea was scabbard-shaped. He asked whether there had been any hypertrophic change, followed by atrophy, which would be likely to produce a result of this kind, the isthmus acting like a strap between the two lobes.

DR. LOGAN TURNER, in reply to Mr. Spencer, said that at the time of the *post mortem* examination there was nothing found in the neck or the posterior mediastinum to account for the condition. There were no enlarged thyroid or lymphatic glands.

Specimen of Malignant Stricture of the Upper End of the Esophagus.

Shown by DR. LOGAN TURNER. The patient was a woman æt. 58, with a history of pain and difficulty in swallowing for six months before death. She refused any palliative operation, and died after rapid emaciation. The case had additional interest from the fact that it was one of three cases of malignant disease of the esophagus occurring in women and seen within a comparatively short period of time.

The specimen showed a stricture measuring one inch vertically, and with a diameter of 2—3 mm., lying behind the cricoid cartilage and upper two rings of the trachea. There was a chain of enlarged glands on the right side. The right recurrent laryngeal nerve was involved in the tumor mass. The microscope showed the tumor to be a squamous-celled carcinoma.

Case of Advanced and Inoperable Epithelioma of Epiglottis with Secondary Infection of Cervical Glands. Exhibited to illustrate Relief obtained by Removal by "Morcellement" of Primary Growth through the Mouth.

Shown by DR. HERBERT TILLEY. The patient was a man æt. 52. He sought relief for fits of suffocation at night, which had become frequent and distressing. In addition he could only swallow small quantities of liquid food, and even these often caused violent fits of coughing, not uncommonly ending in regurgitation of the food. His breath was very foul, and he was losing weight rapidly. Examination revealed a fungating, sloughy mass, the size of a small hen's egg, occupying the lower half of the pharynx.

The patient was seen in consultation with Mr. Symonds, who agreed that a radical operation was inadvisable, and advised removal of the primary growth through the mouth in order to relieve symptoms.

This had been carried out in the course of several sittings by means of Krause's and Watson Williams' cutting forceps.

The relief to symptoms had been extraordinary. The patient's breathing was perfectly easy, and he could eat any food without the slightest difficulty.

His weight had increased since September (when the treatment was undertaken) by 1½ stones.

THE PRESIDENT said that undoubtedly this man had greatly improved as regards swallowing by removal of a portion of the epiglottis.

DR. FURNESS POTTER fully endorsed what Dr. Tilley had said as to the desirability of "doing something" in inoperable cases of malignant disease of the larynx where the epiglottis was involved and there was distressing dysphagia. He had had a similar case under his care last May, and he had removed about five-sixths of the epiglottis with very marked relief indeed; before this the patient had suffered greatly from dysphagia, could only take liquids, and any attempt at swallowing gave great pain. The operation was performed with the galvano-cautery snare, and three or four days afterwards the man was able to eat quite comfortably a meal of beef, potatoes, bread, etc. He would like to ask Dr. Tilley why he preferred to punch out the epiglottis (which necessitated a number of sittings) in preference to using a snare and completing the removal by one operation. In the case he referred to he had removed the epiglottis quite easily at one sitting.

In answer to Dr. Potter, Dr. Tilley stated that it was impossible to remove the whole growth at once by a snare, because it was not sufficiently pedunculated.

Case of Laryngeal Growth in a Man *æt.* 50.

Shown by DR. WYATT WINGRAVE. This patient, a dock laborer *æt.* 50, was exhibited in April last, when there was some hesitation in expressing definite opinions as to the nature of the lesion. At that time he was somewhat hoarse, and had suffered slight dyspnoea on exertion. There were three myxœdematous-looking swellings overhanging the right half of the glottis, together with some slight œdema of the uvula.

During the interval his symptoms had greatly improved, but the growths had distinctly increased in size. He had been treated with Pot. Iodid., as he gave a dubious specific history.

He had no dyspnoea, no swallowing difficulty, and a good voice and no loss of flesh. The tendency to œdema had prohibited the removal of portions for examinations.

Case of Paralysis of the Abductors of the Vocal Cords in a Youth (shown at Last Meeting).

Shown by DR. DUNDAS GRANT. The patient's palate was still in a highly paretic condition, but somewhat less than before, and in the larynx there could be now distinctly seen, during inspiration, a linear extension forwards and backwards of the elliptical slit, which alone was present between the vocal cords on the last inspection. This seemed to indicate a slight increase in the action of the abductors.

The exhibitor thought it unlikely that this could be accounted for by increasing paralysis of the internal tensors, although he was convinced that only time would settle this question.

The patient was still under treatment by means of mercurial inunctions and iodide of potassium internally.

It should have been added to the former report that sensation on both sides of the body was practically normal, both for touch and for temperature.

Dr. Grant would like to bring this case before the Society again.

MR. W. G. SPENCER thought this case made an interesting comparison with others of a similar character that had been shown to the Society. The man's heart-rate was very quick, being 120-130; he had doubted whether it was in excess of its normal rate, for this patient did not seem to be nervous under examination. He suggested that the lesion in this instance was bilateral and in the fourth ventricle somewhere underneath the inferior fovea on each side. He thought it was a local lesion, and it might be syphilitic; but it was also quite as possible that it was an obscure lesion of progressive muscular atrophy. It corresponded to other cases of this disease shown to the Society. There was no paralysis of the sterno-mastoid and trapezius belonging to the spinal accessory proper coming from the spinal cord, and there was, in addition, no indication of any involvement of the hypoglossal with the nerves which are usually involved about the base of the skull in syphilitic inflammation round the foramina, nor was there any sign of carious disease in the occipitals. He had not stripped the man, but the patient had evidently a weakness of the left arm, caused by the involvement of the serratus magnus, and so possibly this was a case of progressive muscular atrophy.

Case of Comparative Hemianesthesia in a Young Female, with Subjective Nasal Obstruction on the Affected Side.

Shown by DR. DUNDAS GRANT. The patient, a female, unmarried, *æt.* 30, was first seen a few days ago on account of pain and noises in the right ear, attributable to chronic suppurative otitis. She complained further of the air not passing through her right nostril. On examination no obstruction sufficient to occasion this symptom was present, but the mucous membrane was found to be in a comparatively anesthetic condition. There was found to be diminished pharyngeal reflex, increase of knee-jerks, comparative hemi-anesthesia on the right side, and erroneous localization of spots touched, too low on the arm, too high on the leg. Under these

circumstances he looked upon the alleged nasal obstruction as being purely subjective, explainable by the patient (owing to the anesthesia of the mucous membrane) not feeling the passage of air through the nostril, consequently not believing that it did pass. The foundation was probably hysterical.

DR. FITZGERALD POWELL said that frequently there was some nervous trouble in these cases, and probably it existed in this woman. This subjective obstruction might be due to a choreic or spasmodic condition of the soft palate. Probably the opening was not sufficiently large to allow the patient to breathe properly, the palate being drawn up against the pharynx. When the patient exerted her will she could breathe easily through the nose.

THE PRESIDENT did not have an opportunity of seeing the nasal cavity, but he would like to ask Dr. Grant on what grounds he based the diagnosis of subjective nasal obstruction in this case.

DR. PEGLER said this was a case in which he should have hesitated to apply the term subjective nasal obstruction, as on the right side there was slight inspiratory insufficiency due to displacement of the lower lateral cartilage and a narrow lumen.

DR. SCANES SPICER thought that in this case the rima was obstructed by the inferior turbinates.

DR. DUNDAS GRANT said he had stated that there was really no obstruction at all. The only obstruction was that which existed in the patient's own mind, and the term "subjective obstruction" was most legitimately applied to such a case. Obstruction produced by contraction of the palate was not "subjective," but "objective;" it might be simply due to spasmodic action of the muscle, but then it became objective obstruction, and the word "subjective" was not applicable. He had first found out the subjective obstruction when asking the patient if she could breathe freely through the nose; she answered that she could not breathe with the right nostril, whereas in reality she was doing so at the time.

Case of Increasing Dysphagia of Six Months' Duration in a Middle-aged Man (for Diagnosis); probably Pharyngeal Epithelioma.

Shown by DR. DUNDAS GRANT. The patient, æt. 35, was first seen on November 20th, 1902, on account of difficulty in swallowing, which had come on gradually during the last six months. He stated that when endeavoring to swallow potato or meat he could hardly get it down at all, and when lying down in bed the saliva did not go down the throat. There was no pain. He had a thickness of the voice like that of a person with very large tonsils. On

examination there was seen a projection from the wall of the pharynx, which concealed the posterior part of the ary-epiglottic folds with the cartilages of Santorini. The growth was so far down that it was impossible to reach it with the finger; it was seen to be bathed with a fluid which was probably saliva. There was no tendency to consumption in the family. There was just a little doubt with regard to the gland behind the left angle of the jaw, but practically at the present time there were no enlarged glands. As regards the question as to whether, by any possibility, it was a tertiary specific affection, there was no history to bear that out, but it was decided to try him with iodide of potassium, and since taking it in 10-gr. doses thrice daily for a week, he expressed himself conscious of some relief; there was, however, no change in the objective appearance.

DR. DONELAN said there was some obstruction of the œsophagus, the dysphagia was progressive, and there was now frequent regurgitation, even of fluids. He thought it a case of œsophageal stricture, probably malignant. There was some enlargement low down on the right side of the neck.

DR. DUNDAS GRANT said that in this case there was a projection on the posterior wall of the pharynx just above the level of the posterior margin of the larynx, which overhung the cartilages of Santorini. He took it to be the upper margin of either an epitheliomatous or a gummatous ulcer. It was situated in the lowest part of the pharynx, not in the œsophagus.

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VIII. THERAPY.

**Superheated Compressed Air in the Therapeutics of Chronic Catarrhal
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X. MISCELLANEOUS.

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- On the So-called Subcutaneous Prothesis by the method of Gersuni.** S. V. KOFMAN. *Khirurgia, Mosk.* 1902, XII, 252-260.
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- Foreign Bodies in the Ear, Nose, Mouth, Pharynx and Larynx.** D. I. BOGOSLAVSKI. *Vratch. Gaz., S. Peterb.* 1902, IX, 963-945.
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Chronic Inflammation of the Pharyngeal Tonsil without Interference with Nasal Breathing—WM. R. MURRAY, Minneapolis
—*Northwestern Lancet.* Sépt. 1, 1902.

Typical cases of adenoids producing mouth breathing are fairly well recognized, but Murray calls attention to the class of cases in which there is chronic inflammation with little or no hypertrophy, and offers the following conclusions:

1. That a chronic inflammation of the pharyngeal tonsil may exist without any obstruction to nasal respiration.
2. That many cases of post-nasal catarrh are due to the presence of a chronically inflamed pharyngeal tonsil.
3. That some cases of acute and chronic otitis media have their origin in an Eustachian salpingitis, which was due to a low grade of inflammation of the pharyngeal tonsil.
4. That in the treatment of some cases of chronic otitis media, the source of the trouble may be overlooked and that no permanent improvement will follow until the underlying cause be removed.
5. That if the presence of a chronically inflamed pharyngeal tonsil were more generally recognized and thoroughly removed, there would be fewer cases of chronic otitis media.

ANDREWS.

SELECTED ABSTRACTS.

The Subcutaneous Injection of Paraffin for the Correction of Deformities, with Report of Cases—JUNIOUS F. LYNCH, M. D.
Norfolk, Va.—*Virginia Medical Semi-Monthly*. November, 1902.

The author records his experience with this subcutaneous injection of paraffine for the correction of "saddle nose," and illustrates four cases "before" and "after," in which there were satisfactory results. He employed soft paraffin, or white vaseline, and not the hard substance from which candles are made. It should have a melting point above 99° and below 104° F., for if it is too soft it will be taken up by the lymphatics and if too hard necrosis will result. The preparation used has a melting point of 102° F., and is prepared by Mr. W. B. Martin, of Norfolk. The technique is simple. The field of operation is prepared as for any other surgical procedure, and the instrument and paraffin sterilized. The paraffin injection is preceded by that of a few drops of a four per cent. solution of cocain for painlessness. The melted paraffin is then drawn into the syringe and allowed to cool until it emerges from the needle a worm-like mass; the needle is then inserted above the site of the depression and the injection is made, the nose at the same time being molded to the shape desired. After the removal of the needle an antiseptic collodion dressing over the puncture is all that is needed. The reaction is very slight and usually confined to a feeling of fullness and tension and tenderness of the nose lasting for a day or two. No unsightly bandages are necessary, no time is lost from business and all of the author's cases left the operating room to go to work. After a time the paraffine becomes encapsulated and of cartilaginous consistence. As a rule only one injection is necessary, and there is no danger.

F. C. E.

Bony Cysts of the Middle Turbinate Body—GEORGE E. SHAMBAUGH, M. D.—*Annals of Surgery*. July, 1902.

The author gives interesting histories of three cases of bony cysts of the concha bullosa and advances the theory that the concha bullosa should be looked upon not as an inflammatory product, but as an anatomical variation, the result of a developmental anomaly.

E. D. LEDERMAN.

Nasal Suppuration.—ADOLPH BRONNER, Bradford.—*Quarterly Medical Journal.*

The writer in discussing nasal suppuration draws attention to the following points:

1. That nasal suppuration is extremely uncommon and is often followed by dangerous complications.
2. That it is generally due to localized disease of bone, or affection of one or more of the nasal accessory cavities.
3. That in cases of nasal suppuration in children we should always carefully examine the discharge for diphtheria bacilli.
4. That cases of syphilitic rhinitis are often fatal if not treated locally.
5. That in most cases of nasal polypi there is local disease of bone, or of one or more of the accessory cavities, especially the ethmoidal cells.
6. That in these cases we must energetically scrape the middle turbinal bone and the ethmoidal cells.
7. That the local application of cocain and suprarenal extract is of great use in the treatment of all nasal diseases, as it enables you to examine the parts more carefully and accurately, and by preventing hemorrhage, renders all operations more easy and less tedious.

HERBERT TILLEY.

Chancre of the Tonsil—WILLIAM CHEATHAM—*The American Pract. and News.* August 1, 1902.

The author claims to have seen seven cases of the disease within eighteen months and considers it much commoner than the generality of the profession, from text book reading, are led to suspect. History of exposure is difficult to obtain sometimes, but a persistent sore throat accompanying enlarged glands at angle of jaw, and coursing the sterno-cleido mastoid muscle, these glands being indolent, movable, without peri-adenitis, not tending to suppurate, with or without a history of infection or the probability thereof, with a tonsillar lesion, with or without a skin eruption, should be regarded with suspicion. It is most probably a tonsillar chancre. The characteristics of the tonsillar chancre itself are not well defined. The indurated base is frequently not prominent, there is little or no loss of tissue, while the sore may be covered with mucus. The author has never seen such a chancre that has not existed for weeks. F. C. E.

A Case of sudden Collapse accompanied with suspension of Respiration and Cyanosis consequent to Adenotomy; Tracheotomy. Recovery—HOLGER MYGIND—*Hospitalstidende*. Nov. 18, 1902.

Mygind has twice seen serious disturbance of respiration (laryngospasm with stridulous inspiration and strong cyanosis of the lips) arise from adenotomy without use of chloroform. Both cases were children under two years, having symptoms of rachitis. The third case was in a boy of two years, also with rachitic deformities. The title indicates the condition of this patient. The child's mother later declared that the child was subject to fits of suspension of respiration with cyanosis. On two occasions he had such attacks in the presence of the family doctor, and artificial respiration had to be employed.

G. KIAER.

Adenoid Vegetations in the Naso-Parynx as a cause of Enuresis—JOH. FISCHER—*Ugeskrift per Luger*. N. 38, 39, 1902.

During 1894 and 1898 Granbech published 427 cases of adenoid vegetations, fourteen of which were accompanied by enuresis. Fischer found a like per cent in his 716 cases, 400 of which were taken from Mygind's private clinic, and the rest, 316, from the Communi Hospital's clinic, which is visited by the impecunious only. The difference in frequency of enuresis among the two groups is pronounced. In the 400 cases from the opulent class, enuresis was found only in 31 cases, or 8 per cent., whereas it was found in 75 cases, or 24 per cent. of the 316 cases from the hospital clinic. Of the 31 private patients, 5 were lost to later observation, while among the visiting 26, 20 were suffering from enuresis nocturna, 3 had enuresis diurna, and 3 had enuresis nocturna et diurna. The age of the children was from 2 to 11 years. Fifty-four per cent. were cured, 31 per cent. improved and 15 per cent. no result was observed. Of the 75, 30 were lost sight of. Of the visiting 45, 40 were suffering from enuresis nocturna, 1 from enuresis diurna and 4 from enuresis nocturna diurna. The ages were from 3 to 15 years. Sixty-two per cent. were cured, 35 per cent. better, and only one continued improved.

G. KIAER.

Ozena—JOHN MACKIE, L. R. C. P. Ed., Nottingham—*Quarterly Medical Journal*.

The writer's experience leads him to believe that ozena is associated with sinus or other intranasal suppuration and hence receives the suggestion first promulgated by Michel and more recently upheld by Gruenwald.

He gives a list of twenty cases of ozena, most of which were cured or greatly relieved by operative treatment on the ethmoidal or sphenoidal cavities.

The writer thinks that sinus suppuration is much more common in children than is usually supposed and bases his conclusions on the following arguments:

1. When patients are intelligent or relatives observant in cases of ozena there is invariably a history of purulent discharge from the nose or nasopharynx in early life.

2. This discharge, free at first, lessens in amount, but never quite disappears till it merges into ozena, forming crusts and becoming offensive.

3. Pus is always present in ozena and enters into the formation of crusts.

4. The establishment of free drainage and the cure of purulent discharge has proved more successful in treatment than any other methods.

The writer answers the argument that long standing cases of sinus suppuration often do not produce ozena by the reply that it is the lessening of the discharge combined with difficulties of drainage which cause fermentation and the special features of ozena. He suggests that the marked atrophy of the inferior turbinal and lower parts of the nose are due to the effect of the descending discharges.

The posterior ethmoidal cells and the sphenoidal sinus are more frequently at fault.

In treatment he suggests that the dense mass of bone so frequently found in the middle meatus should be removed under general anesthesia and that a free passage to the anterior wall of the sphenoid should be established. In completing the cure of cases where free drainage has been established the use of the X rays is highly spoken of, not only in lessening the discharge, but inducing a rapid return of the parts to their normal condition.

HERBERT TILLEY.

A New Treatment for Deafness from Chronic Catarrh of the Middle Ear, A Preliminary Report—W. H. BATES, N. Y.—*N. Y. Med. Journal.* May 3, 1902.

The patients improved by this treatment had symptoms of an obstruction to the sound conducting part of the ear. All heard the tuning forks best by bone conduction. All other treatment was given before the operative method was carried out. The object of the operation is to obtain room for treating the region of the oval window,

and not to improve the hearing immediately. The patient received no special preparation. An incision is made over the mastoid, close to the insertion of the auricle. With a chisel the superior and posterior wall of the external auditory canal were removed until the antrum is reached, and the next steps are identical with the Stacke operation. The membrane and ossicles and overhanging bone were removed. The cavity was dusted with iodoform powder, and the skin wound was closed with sutures and covered with collodion iodoform and cotton dressing. A small pledget of cotton was placed in the external canal and the ear covered with a large wad of cotton and bandaged. The next day the bandage was removed and not used again. Most of the patients were able to go out doors the day after the operation. To prevent infection of the middle ear the patient used twice daily in the external auditory canal a solution of bichloride of mercury, 1 to 3,000, and this was continued during the after treatment. The object of the after treatment was the removal and prevention of recurrence of connective tissue from the inner wall of the tympanum. This is a tedious process and may have to be kept up for months. The best instruments for this purpose are the Graefe knife, Sexton's trowel-shaped knife and Wilde's ear forceps, mouth-toothed. A number of cases showing good results are reported.

M. D. LEDERMAN.

A Case of Respiratory Tinnitus—P. D. KERRISON, N. Y.—*Med.*

Record. April 19, 1902.

A male, aged 46 years, complained of a low blowing, distressing noises in left ear whenever he breathed. The noises were not continuous. Both inspiration and expiration produced the symptom. By closing the mouth and nostrils and attempting to inflate his lungs the patient drew in the air from the ears (reversed Valsalva). He was able to stop the noises, but they would always return as soon as the act of swallowing took place.

The left ear on examination was perfectly healthy in appearance. Both Eustachian tubes were patent. There was some nasal disease and elongated uvula.

The treatment consisted in passing a bougie of No. 5 piano wire, wrapped with cotton and dipped in an alcoholic solution of bichloride, 1 in 4,000, and this was passed through the catheter, being carried to the isthmus of the tube. After a few moments the bougie was withdrawn and a cotton applicator, bent to a somewhat greater curve than the catheter, wrapped with cotton and dipped in the same solution, was introduced catheter fashion into the pharyngeal orifice

of the tube. This was kept in position for half a minute. On its withdrawal the noises had entirely disappeared. This relief lasted for two hours. After the second treatment the noises stayed away for two days.

The author is inclined to believe that as a result of a mild congestion or inflammatory process affecting the naso-pharynx and later the cartilaginous portion of the tube, the walls of the latter were left rigid and were prevented from assuming their normal opposition.

M. D. LEDERMAN.

The Effects of Drugs on the Ear—S. S. BISHOP—*The Bacillus*.
June, 1902.

The author names in particular such drugs as quinine, salicylic acid and its compounds; sodium salicylate and salol, morphine and chloroform, as provoking a baneful influence upon the sense of hearing. The pathology of this condition is that of hyperemia and a subsequent transudation and hemorrhagic effusion; its site is the labyrinth and middle ear.

Tobacco is mentioned, not as a common cause of ear disturbance, but only as an exciting factor in a few cases, as in over-indulgence or marked susceptibility to it, or in the use of certain grades of tobacco containing large quantities of nicotine.

STEIN.

The Local Application of Heroin in Rhino Laryngology—DR.
LIGOWSKY—*New Albany Medical Herald*. September, 1902.

Experiments show that the employment of Heroin locally on the mucous membrane of the nose, pharynx and larynx has an analgesic effect. A 5 per cent. solution was used and a marked reduction in the sensibility of the parts was observed.

The amount employed was equivalent to about $\frac{1}{12}$ to $\frac{1}{10}$ grain.

Intralaryngeal injections act in the same way as its internal administration, the drug being rapidly absorbed at the point of its local application. It acts as well on the infiltrated mucous membrane as it does when normal.

STEIN.

Furunculosis of the Auditory Canal Following an Acute Otic Media Simulating Mastoiditis—M. VUES—*Revue Heb. de Laryng. D' Otol. et de Rhinologie*. August 23, 1902.

A young man of 18 years, suffering from an acute otitis media, accompanied with abundant discharge and pain radiating the right side of the head, developed a swelling over the mastoid which was painful on pressure. The posterior superior wall of the canal was

swollen and concealed the drum. The author prescribed hot applications but warned the patient of the possibility of surgical intervention. On the third examination the author observed a small area in the auditory canal which was especially painful. A slight incision gave vent to several drops of pus. Under the influence of moist applications the pain disappeared and soon also the swelling, the hearing becoming normal. At the end of the sixth day the cure was complete.

W. SCHEPPEGRELL.

A Bullet in the Ear. Radiography—BARATOUX—*Revue Heb. de Laryng. D'Otol. et de Rhinologie.* August 9, 1902.

A young man of 20 years was struck in the left ear with a bullet from a revolver. He lost consciousness immediately. On recovery there was tinnitus, which lasted until the following day; there was but little hemorrhage. By means of radiography the bullet could be seen, but it appeared to be located in the skull. The ear commenced to discharge freely, and the patient complained of severe headache.

An otoscopic examination showed the auditory canal to be filled with vegetations, and an immediate intervention was thought necessary. The membranous canal was laid free and the attic opened up, which enabled the bullet to be removed. The posterior part of the tympanum was intact but the drum and ossicles had been destroyed. The wound was kept open for eight days and was followed by a rapid recovery.

In this case radiography enabled the bullet to be seen, but it gave rise to an erroneous impression as to its real position.

The error in this instance was due to the operator and not to radiography. In such cases two observations, examinations and preferably radiographs should be made; one parallel with the auditory canal and the other at right angles. The intersection of the two cones of shadows due to the absorption of the rays by the metallic body would have given its exact location.

W. SCHEPPEGRELL.

Hemorrhage after Tonsillotomy—H. A. LEIPZIGER, Burlington, Iowa—*Med. Fortnightly.* Sept. 10, 1902.

The author has been led to believe, from perusal of literature and his own experience, that "tonsillotomy is more dangerous to the surgeon than to the patient."

He quotes Paget as advising: "Never decide upon an operation, even of a trivial kind, without first examining the patient with at least as much care as you would for life insurance." He has looked

through the Am. J. Med. Sc. from 1827 to 1902 and can find no death recorded (from tonsilotomy), although several authors state that deaths have been reported, but do not say where or by whom.

Fuller quotes Sajous as stating that profuse hemorrhage occurs about once in 500 cases, while an alarming flow does not occur once in 1,000 times, and accepts this proportion from the record of Cohen, Mackenzie and his own experience.

Leipsiger made use of a remedy which seemed to him as effective and worthy of trial as any other, in view of the apparent helplessness frequently occasioned by tonsillar hemorrhage when of the oozing variety. In a patient aged 25, operated upon by him twelve years previously, the tonsils had again enlarged. A tonsillotome was used in the recent operation and the usual hemorrhage persisted on the right side in the form of oozing. Pressure with alum solution, cold and heat, styptics, pressure, adrenalin, all failed to permanently control the bleeding. It seemed that the blood would clot upon and around the cut surface in the tonsillar pocket, but when the clot protruded it would start an irritation which made the patient hawk and spit it out, followed by fresh bleeding.

After seven hours of bleeding Leipsiger decided, in order to eliminate whatever nervous element might be underlying the condition, to give a hypodermic of morphia and administered $\frac{1}{4}$ gr. with $\frac{1}{60}$ of atropine. In twenty minutes patient was asleep and slept four hours, awakening bleeding as before, but feeling much better. The hypodermic was repeated and patient slept six hours. Sleep continued uninterruptedly until 2 p. m., following day. There was no further bleeding. Leipsiger comes to the following conclusions (most important only here given):

I find in the journals many cases of alarming hemorrhage, but could not find reports of fatal cases; some were secondary, some continued off and on as long as nine days.

The operation should never be done at the surgeon's office, but either at the home of the patient or at a well equipped hospital.

The usual compensation for the operation is ridiculously small compared to the responsibility assumed by the surgeon, and the dangers arising from hemorrhage.

Cessation of parenchymatous bleeding is effected probably by syncope favoring coagulation, or through vaso-motor influence brought on by unconsciousness. If the latter is true, removal of nervous excitement by hypodermics of morphine may prove to be the most desirable agent to check the hemorrhage. The use of styptics seems ineffectual; their application is often injurious from the gagging

and irritation produced, which in turn increase the bleeding and the nervous excitement.

Although the author has failed to find any authentic reports of fatal hemorrhage in the literature at his disposal, and Bosworth says that he knows of no case reported in sufficient details to warrant its being accepted as such, these conclusions must be modified if a report in the *Wiener, Klinische Wochenschrift* for February 27, 1902, by Damionos is correct. This writer says that of 159 reported cases of serious bleeding, seven were fatal. Three of the fatal cases were after operations by charlatans; two were children under 13 years, which is opposed to the general belief that severe bleeding after tonsillotomy never occurs in children.

EATON.

A Contribution to the Study of Peritonsillar Abscess—D. M. BARSTOW—*Med. Record.* April 19, 1902.

The object of the treatment is to open up the supratonsillar recess so widely that it will drain itself freely. A 4 per cent. solution of cocain is injected into the body of the tonsil and into the peritonsillar region, through several points in the anterior pillar. A curved incision is made from above downwards, dividing the plica triangularis at its base from the anterior pillar. Next, the entire upper part of the tonsil is removed piecemeal with the Myles' punch (tonsil), together with a part or the whole of the plica. When the pillars are exposed there is always soreness and at times hemorrhage. This, at times, cannot be avoided. The operation is a short one, usually consuming about fifteen minutes. Good results have followed this method.

M. D. LEDERMAN.

A Case of Nearly Fatal Intra-Laryngeal Hemorrhage from Papillomata of the Larynx.—BRONNER, ADOLPH.—*Lancet*, April 26, 1902.

Cases of dangerous hemorrhage from laryngeal papillomata are extremely rare. The notes of the following case may therefore be of some interest.

A strong, healthy man, aged forty-eight years, was seen in June, 1896. He had been hoarse off and on for nearly two years, and was getting worse. There were a large number of papillomata growing from the vocal cords (edges and upper surface) and the ventricular bands. These were removed at intervals of from two to three months. On December 18, 1897, the patient was running to catch a train when he began to cough and to feel choky and had to walk slowly. He spat up small quantities of bright blood. In

the train he gradually became worse, the cough was more violent, and he was continually spitting up small lumps of blood, and he felt as if he were going to suffocate. When he arrived at Bradford, twenty minutes after entering the train, he had to be lifted out of the carriage, and was unconscious for from fifteen to twenty minutes. During this time he was violently shaken and brandy was poured down his throat. He coughed up lumps and threads of coagulated blood and froth. He gradually came round, and was taken to a private hospital. He was then breathing rapidly and perspiring freely, and was coughing up frothy mucus and small lumps and threads of coagulated blood; some of the latter were ramified and evidently came from the smaller bronchi. The pulse was 125. There was slight dullness of the base of the left lung and numerous rales and sonorous rhonchi were heard over the bases of both lungs. The upper parts of the lungs were normal. The symptoms gradually cleared up in two days. There were not, and never had been, any symptoms of tuberculosis of the lungs. He said that both lungs felt heavy, especially the left, as though a large piece of lead were pressing on them. For the next three or four weeks the patient coughed up small lumps of red blood. He says that for some months before the attack he expectorated very small pieces of blood now and then. The author saw him in June, 1898, and could see distinctly a small blood-clot in one of the papillomata of the vocal cords, and there was local hemorrhage after the removal of the clot. The patient used a formalin spray for some months, and the papillomata then practically disappeared, and there has been no recurrence up to the present time.

The case is a very peculiar one. Of course, the hemorrhage may have been of pulmonary or intratracheal origin. But the facts that there had been frequent attacks of very slight hemorrhage without very violent cough, and that the author could distinctly see a small clot on the papillomata seem to prove that the growths on the edge of the vocal cord were the cause of the hemorrhage. The violent exertion and excitement in catching the train probably brought on a more severe hemorrhage than usual and also induced a violent spasm of the glottis which, combined with the blood entering the smaller bronchi, nearly proved fatal.

ST. CLAIR THOMSON.

The Topical Application of Mucin in Certain Affections of the Nose, Throat and Ear.—STUART-LOW, W.—*Lancet*, April 5, 1902.

The *bête noire* of nose, throat and ear practice is the difficulty of successfully accomplishing amelioration of aridity of the mucous linings of these organs, and the fact is that to such aridity all the other intractable, disagreeable, and distressful symptoms are due—namely, incrustation, fetor, ulceration, hemorrhage, and pain. The lessened mucous flow by causing desiccation causes also the loss of the essential and special nasal functions of smell and the filtration and warming of the inspired air. It is claimed for mucin that it does more than anything that has yet been tried to relieve the discomfort in mild cases and to mitigate the distress and suffering in the more severe. It is a natural remedy which restores the moisture and maintains it in virtue simply of its hygroscopic properties.

When applied locally to the interior of the nose and pharynx mucin has a soothing and emollient action; it moistens the surface and softens incrustations, readily facilitates their removal, and prevents their reformation; it thus also obviates fetor, which is one of the best points in its favor as a local remedy. Mucin also restores the nasal function of smell by its hygroscopic effect, and the filtration and warming functions are also resumed, because in a dry condition the mucous membrane is functionless. Messrs. Burroughs, Wellcome & Co. have prepared a soloid composed of five grains of mucin, five grains of sodium bicarbonate, and one grain of menthol. This is prepared for use by dissolving it in one ounce of sterilized warm water, or more thoroughly to get more of the mucin into solution the author is in the habit of dissolving the soloid in equal parts of sterilized warm water and sterilized warm lime-water. This solution may be used to spray, to douche, or to syringe the nose and throat twice daily. The spray should be a coarse one, as otherwise it is liable to get clogged with particles of undissolved mucin. A very good plan to obviate this is to spray warm water at least once a day through the instrument and thus wash it out. If much incrustation has to be got rid of it is well to rub it off with cotton-wool saturated in the warm mucin solution on a mounted prop. In severe and very old-standing cases of atrophic trouble he supplements the local treatment by giving the patient tabloid mucin co, containing five grains each of mucin and sodium bicarbonate internally before and after meals, and thus relieve the concomitant gastric irritation and constipation.

The solution of mucin has also been tried in cases of dry catarrh of the middle ear. The author finds that even long-standing cases of atrophic nasal and pharyngeal trouble do very well, and that the crusts soon cease to accumulate, after regular douching twice daily with a solution of soloid mucin co., and that no other irrigations are ordinarily necessary; that there are certainly instances when pus is present in the discharge in which it is advantageous to use it just before the mucin douche a lotion of sodium sulphate or a combination of sodium sulphate and bicarbonate for cleansing purposes. The author has patients who, after years of suffering from typical atrophic rhinitis with all its horrors of fetor and discomfort, have, after continuous and persistent application of the mucin irrigation, now been able to dispense with treatment to a greater extent than two or three times weekly.

ST. CLAIR THOMPSON.

The Methods of Using Argyrol—A. C. BARNES, M. D., Philadelphia, Pa.—*The Virginia Medical Semi-Monthly*. October, 1902.

This paper deals with the use of Argyrol in many surgical conditions, including such affections of the throat, nose and ear, as catarrhal manifestations of the nasal, pharyngeal and laryngeal mucous membranes, also hay fever, purulent otitis media and empyema of the antrum of Highmore. The strength was 10 to 50 per cent., according to the inherent sensitiveness of the location to which it was applied. The author compares it with silver nitrate, (an old and valuable remedy) to the detriment of the latter because its chemical nature endows it with certain drawbacks, viz.: it is irritating, caustic, is chemically changed by the secretions and does not penetrate much beyond the surface. Argyrol is not chemically changed by the secretions, possesses intense penetrative power, whereby the effects of silver are exerted in the sub-mucous structures (where they are most needed and may be used in any structure of the body in almost any strength without destroying tissue or producing irritation. Argyrol has one very marked property—i. e., its effects in allaying the signs and symptoms of inflammation.

F. C. E.

Atrophic Rhinitis—JOHN J. KYLE—*Indiana Medical Journal*. October, 1902.

The author reviews the subject from an etiologic standpoint, and from the numerous and varying opinions expressed on the subject he selects that of Bayer and Woakes, namely, the neuropathic theory, as expressive of his opinion.

STEIN.

Report of a Case of Secondary Hemorrhage Following Tonsillotomy.—Measles.—CLARENCE PORTER JONES, M. D., Newport News, Va.—*Virginia Medical Semi-Monthly*. October, 1902.

Case of a robust woman, 20 years old, from whom both tonsils were removed with unusual hemorrhage. This bleeding was checked by an application of powdered suprarenal and tannic acid. There was a recurrence in six hours; it yielded to a similar application. The next morning she was broken out with measles from which she recovered naturally. The author considers the case interesting in several features.

1. In eruptive fevers there is diminished coagulability of blood.
2. There seems to be some vaso-motor disturbance in the arteries and no surgical operation denuding much surface should be undertaken.
3. The superiority of suprarenal glands over tannic acid in controlling hemorrhage is exhibited.

The author notes that cases of this kind are not common in literature and quotes Bordes as having reported a secondary hemorrhage after tonsillotomy, the eruption breaking out six hours after the operation.

F. C. E.

The Tonsils as a Port of Entry for Infections—EDITORIAL—*St. Louis Medical Review*. September 20, 1902.

Quotes Forscheimer, of Cincinnati, who has seen appendicitis and jaundice succeed to angina. In the one case of appendicitis reported by Forscheimer, the form of tonsillar disease was follicular with mixed infection, staphylococcus albus and streptococcus. The appendicitis was characteristic and developed three days after the temperature became normal. There were five cases of jaundice. The form of angina varied, in all but two mixed infection as above quoted; in one streptococcus aureus angina. The time elapsing after the tonsillar symptoms subsided was from three to ten days. In all, the liver was sensitive, the gall bladder not full, while the spleen was enlarged in three cases.

F. C. E.

Acute Laryngitis Simulating Diphtheria—DRS. MONTAGNON AND MOINDROT—*Revue Heb. de Laryng. D'Otol. et de Rhinologie*. August 30, 1902.

In a case of bronchitis, apparently of grippal origin, a child presented great difficulty in breathing, which lasted six days. In the course of an examination there was found on the walls of the throat

a grey membrane, adherent, isolated and presenting the appearance of a diphtheric membrane. A violent coryza accompanied the laryngo-pharyngitis.

A laryngoscopic examination showed only a diffused redness of the larynx, but no false membrane. By means of a bacteriologic examination, which was twice repeated, it was found that the bacillus of Löffler was entirely absent. The pathologic condition was due to an infection by cocci and streptococci. In other words, it was simply acute laryngitis and not one of diphtheric origin.

W. SCHEPPEGRELL.

Treatment of Chronic Middle Ear Catarrh—SOPHUS BENTZEN—

Ugeskrift per Lager, N. 22, 1902.

In reviewing the different methods for the treatment of deafness, the author discusses especially the mechanical treatment, electrovibration ad modum, Breitung, not under increased atmospheric pressure as is usually done, but by contrast under diminished pressure, yet never under 560 min. quicksilver pressure. The rarefaction of air in the meatus auditorium externo is accomplished by the Cordes air pump, which is joined to the Breitung electrovibrator by the use of a T reed. Instead of an air pump a Politzer balloon may be used. The author has used a mechanical treatment for two years, and only in cases where the bone conduction is approximately normal or increased and the upper border is not under 1° of the Galton whistle, but not where the bone conduction is shortened and the upper limit very much diminished.

G. KIAER.

A Cork Nasal Splint—HAROLD WILSON, Detroit—*Journal American Medical Association*, Nov. 29, 1902.

The advantages claimed for cork are its lightness, its elasticity, and that it can be shaped by the surgeon to suit each individual case. The general shape is that of the Asch or Mayer splint, but the anterior end is cut at a greater angle, the better to conform to the anterior naris. A hole is bored through a suitable piece of cork and then by means of a sharp knife, file and sandpaper, it is made of proper shape. After the splint has been shaped it is dropped into hot paraffin, which both sterilizes it and fills up the numerous inequalities in its surface so that it does not absorb the nasal secretions and is easily cleansed.

ANDREWS.

BOOK REVIEWS.

The Practical Medicine Series of Year Books. Volume III. The Eye, Ear, Nose and Throat. Edited by CASEY A. WOOD, C. M., M. D., ALBERT H. ANDREWS, M. D., and T. MELVILLE HARDIE, A. M., M. D. Published by the Year Book Co., publishers. 40 Dearborn street, Chicago. December, 1902. Price, \$1.50.

It is hardly possible to review this thoroughly acceptable volume, as it is in itself but a record of the progress of Ophthalmology, Otology and Laryngology for the year 1902. It is needless to say that in the hands of its able editors the several subdivisions of this Year Book have been well taken care of, as is attested by a careful selection of the literature and abstracts which it contains.

We can only add that the volume is absolutely indispensable to the special workers in these fields, as it gives them a review of the season's work and literature; it is invaluable to the busy practitioner who has not the time to peruse the original papers as they appear in the various medical journals, and it is a whole post-graduate course to the general practitioner who desires to acquaint himself with the latest advancement in these specialties. M. A. G.

Pathologie Comparée du Pharynx. Par DR. C. CHAUVEAU. Preface de M. le Professeur Cadiot. Avec 27 figures dans le texte. Paris: Librairie J. B. Baillière et fils, 19 Rue Hautefeuille. 1902.

We have previously in these pages referred to the extensive writings of Dr. Chauveau on diseases of the pharynx. In the present volume of 200 pages he first describes the pharynx of various animals—horse, cow, sheep, pig, dog, cat, rabbit and duck—before studying the general and then the special pathology of the region. The volume is full of research and is rich in references. Many chapters—such as those on diphtheria in birds and calves—are of considerable clinical importance, and the volume can be recommended to all who are engaged in a thorough study of the region.

ST CLAIR THOMSON.

La Voce, nel Linguaggio e nel Canto. The Voice, in Speech and Song. Lectures delivered by PROF. GHERARDO FERRERI, teacher of Oto-Laryngology in the Royal University of Rome. Roma: Albrighi, Legati & Co., 15 Via dei Prefetti, 1903. Prezzo, 2 lire (Price, 40 cents).

This little book of 130 pages consists of six public lectures, delivered by our Italian collaborator. The subject of voice, speech, song and voice production is treated from a popular point of view, with due consideration to the care and hygiene of the vocal organs. Coming, as it does, from the land of song, it can be commended to all interested in the subject, for it gives a brief and clear *exposé* by one who has thoroughly studied it.

ST CLAIR THOMSON.

L'Adrenalin, et ses applications en oto-rhino-laryngologie. Par le DOCTEUR I. TRIVAS. Bordeaux: Imprimerie G. Gounouithon. 9-11 Rue Guirande. 1902.

Nowhere in the Old World has the use of adrenalin been more enthusiastically inaugurated than in France. It appears to have entered that country via Bordeaux and the *Thèse* before us was inspired by work done at the Progressive Clinic of Dr. Moure of that city. It contains a good summary of the already extensive literature on adrenalin, together with numerous clinical observations, and some physiological experiments. The work forms a handy *brochure* on the subject, which may be consulted with benefit. St C. T.

Rapports Anatomiques et Pathologiques entre les Sinus de la Face et l'Appareil orbito-oculaire. (Anatomical and Pathological Relations Between the Nasal Accessory Sinus and the Eye and Orbit.) Par le Dr. GEORGES STANCULEANN. Paris: G. Steinheil, 2 Rue Casimir-Delavigne. 1902.

The relations of the accessory nasal cavities have been studied from many points of view and not the least important are those which connect these cavities with the eye and the orbital cavity. The relationship has been so completely investigated in the *Thèse* before us that it leaves little for future investigators and affords us a wealth of reference on the subject. Dr. Stanculeann has learned his ophthalmology under masters, such as Landolt, de la Personne and the late Panas, who have all appreciated the connection of rhinology with their specialty, while he has studied the latest progress in the investigation of the sinuses with such well known teachers as Luc, Lermoyez and Cartex. From both sides he is, therefore, well equipped for his task and we can candidly recommend a perusal of his work to both ophthalmologists and rhinologists. St C. T.

Progressive Medicine, Vol. IV, December, 1902. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 412 pages, 54 illustrations. Per volume, \$2.50, by express prepaid. Per annum, in four cloth-bound volumes, \$10.00. Lea Brothers & Co., Publishers, Philadelphia and New York.

The concluding volume of 1902 begins with an excellent chapter on diseases of the digestive tract by Dr. Max Einhorn, which includes a brief consideration of the mouth, tongue and esophagus, and describes the technique of esophagoscopy and the latest instruments for perfecting same.

Another chapter of special interest is that on hygiene by Dr. Charles Harrington, in which space is given to prophylactic and preventive measures in the conduct of diphtheria, tuberculosis, malaria, etc.

In the chapter on practical therapeutics, reference is made to the recent suggestions by Dr. Holbrook Curtis in the treatment of Hay Fever; the use of creosote carbonate in pulmonary conditions, and the value of dionin to control harassing cough. Diphtheria Antitoxin and statistics of its use to date is presented in a special paragraph. M. A. G.

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